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VALENTINE MOTT, M.D.

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HENRY U. ONDERDONK, M.D.

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REVIEW.

I.

Observations on the Climate in different parts of America, compared with the climate in corresponding parts of the other continent. To which are added, Remarks on the different complexions of the Human Race; with some account of the Aborigines of America: being an introductory discourse to the History of North Carolina. By HUGH WILLIAMSON, *M.D.L.L.D. &c. &c. New-York, Swords,* 1811.

We are happy in having it in our power to make the subject of our first review, the work of an American in favour of America. We have often heard, and sometimes read, discussions, which involved the character of America and its inhabitants, whether aboriginal or from Europe. We have observed much perverseness in these arguments; —seldom has any authority hit the truth, that happy medium which obstinate controversy has never attained, that hallowed sanctuary which is not to be opened with violent hands. We have heard some, guided neither by reason or

philosophy, but by a spirit of illiberality and prejudice, decry every thing west of the Gulf stream. But we have generally found that those who propagate such deceptions, speak of some other country as home ; and, that if they do not err through ignorance, they are misled by some powerful mental delusion, not unlike the "vanity of philosophy "falsely so called."

A coat of arms has produced much vanity, and so has a white skin. As the former has been made an argument for nobleness of birth, so has the latter for a radical difference of intellect. And as a palace is more venerable than a cottage, so the old world has been consecrated a mansion of nobility, while the new ranks merely as a log-hut, fit only for savages and degenerate Europeans. To carry our simile farther,—as some well-meaning teachers have insisted on distinctions of rank as necessary in society, and therefore ordained by the Creator ; so have politicians found calumniating America necessary for their schemes of economy, and have dabbled in the puddle of "philosophy and "vain deceit" for arguments to give plausibility to the scandal. Less than a century may complete the practical refutation of these aspersions, in the mean time they are to be met on the field of speculation.

One of the leading objects of Dr. Williamson's book is to prove that there is no essential inferiority in the climate of America ; that there is not, as has been asserted, any "vice of the climate or combination of elements which "prevents the expansion of animated nature, and causes "man and beast to degenerate." Proh Pudor ! can this be requisite ? an extent of continent reaching farther, both north and south, with every degree of temperature, every variety of situation ; with mountains and plains, rivers and seas, such as are found in the old world ; with a similar mineral kingdom, a vegetable kingdom nearly similar, and an animal kingdom not different ;—with all these resemblances, is our climate only to be different and inferiour ? if we could suppose a lunar inhabitant brought near enough to our globe to view its regions as they passed in diurnal revolution, would he judge that our side of the

earth was so unseemly that it must generate an evil atmosphere ; that our mountains must condense showers less salubrious ; that the sun which travelled with healing zephyrs to the favoured trans-atlantics, passed us only to leave evil blasts and a vicious combination of elements : if he were to observe in Africa, immense sand deserts, heating the air and loading it with impurity, and the same latitudes with us chiefly given to the ocean, with a mere waist of land, would he not adjudge us the palm ?

There is another view which may be taken of this subject. Whenever the climates of Europe, Asia, or Africa, are noticed, the boundaries of the place criticised upon are given. Thus one character is attributed to that of Lapland, others to those of Great Britain, North France, South France, Italy, &c. Even every island of importance in the East Indies has the character of its climate estimated. The West Indies too have fared tolerably ; for although the climate of most of those islands is confessedly unhealthy, yet it contains no combination of elements which is " opposed to the amplification of animated nature."—At these two points the region of Elysium ends. The European sages travelled east and west unhurt ; they passed to the pestilential regions of both Indies shielded in the panoply of due quantities of oxygen and azote. Beyond these lay half-known America, whose natural division of climates was lost in one general vice of the elements ;—a continent as wild as the reveries of a philosopher, as savage as his hopes.

' The arguments by which Americ a and the original men of America ' have been degraded, are so badly supported by observation or reason, ' that we are induced to look for some powerful motive by which ' certain historians and philosophers, elegant writers and men of genius, ' could be seduced from their usual attention to facts, and their habits ' of correct reasoning. The pride of discovery may have tempted ' some writers to find what does not exist, a new race of men. The ' pride of country may have induced others to regard their own climate ' and their own complexion as having no rivals in nature. Other his- ' torians, without sinister views, may have yielded to fashionable opin- ' ion ; but the prevailing motive with certain writers, appears to have ' been a desire to subvert the mosaic history, and with it the christian

'religion. This desire is not concealed by the gentlemen to whom I 'refer, &c.' p. 140. 141.

The first point Dr. W. endeavours to establish as subservient to his main argument, is, that there is no "essential frigidity in the American atmosphere." This he has done to our complete satisfaction. He shews that incorrect notions of the continent, have been adopted from a mere survey of the coast; that the vicissitudes of the weather in that section have been taken as grounds of impeachment for our whole western world. He also adduces the amelioration of climate in some parts of the old world, which he attributes "to cultivation alone," as affording reason for our expecting the same.

'The winters must have been very cold seventeen hundred years 'ago, in Italy, else Juvenal could not have mentioned the necessity of 'cutting the ice, on the Tiber, in order to come at the water. Horace 'could not have described the streets of Rome, as full of ice and snow; 'nor could Virgil, with any propriety, have recommended great at-'tention to young sheep, lest the cold should destroy them.

'In the present age, ice is not found on the Tiber. Cattle are not 'injured by cold in that part of Italy. Neither does the Euxine 'freeze, nor wine, in its vicinity, as formerly they did, when the Ro-'man poet, in pathetic strains, lamented his banishment. The nor-'thern part of Spain, as Strabo tells us, were thinly inhabited, by 'reason of the cold. And we are told by Livy, that, for a month to-'gether, the ground was covered with snow, four feet deep, at a town 'near Barcelona. Germany was so cold about the same epoch, that 'it would neither produce apples, grapes, nor other fruit. The forests 'in Thrace and Panonia, as we are told by the ancients, were covered 'with snow through the greater part of the year; and white bears 'were common in Thrace as snow in Siberia. There was a consider-'able degree of cold eighteen hundred years ago in Palestine, where 'they have very little winter at present, and very little cold, towards 'the latter part of March. If we look farther back, one thousand 'years, we shall find that snow and ice were familiar to the inhabitants 'of that country.' p. 18. 19.

Let it be understood that these are historical facts, and that their evidence is not to be shaken by any difficulty in the explanation. Our author explains it however very ingeniously, on the principle that cultivation lessens the frigidity of a climate, and predicts such an amelioration in America.

Our continent, it is well known, may, until lately, have been regarded as one immense forest; the sun's rays have had little or no access to the soil. "The sun's rays falling "upon wet land, or upon land covered with trees, causes "evaporation, and the heat of the surface is reduced in pro- "portion to the fluid that is evaporated in a given time." "It appears, from experiments, (Dr. Hale's experiments) "that land, covered by trees, emits one third more vapour than a surface of the same extent covered with water." We shall presently notice that westerly winds prevail in high latitudes, and particularly on our coast. These winds passing over an immense tract of uncultivated land, bring their charge of cold directly upon us; especially in winter when this tract is frozen or covered with snow. If therefore cultivation will lessen the evaporation, and the admission of solar rays to the soil add to its heat, the prediction is well grounded. These propositions are so simple that it is needless to state them more fully. We must notice Dr. W's. theory of the operation of the solar rays in producing heat.

He favours the opinion that heat depends on the vibratory motion of the particles of bodies, and that "the rays of "the sun, striking the surface of the earth, by which they "are resisted, causes the surface to be heated and the at- "mosphere is heated by the surface of the earth." We cannot but regard this theory as unsatisfactory; it is utterly at variance with the doctrine that heat is a peculiar fluid, which is now generally received, and which is admitted by Dr. W. to be necessary for the explanation of some phenomena. There appears indeed to be very indistinct opinions on this subject. Some think that heat proceeds direct from the sun in a separate ray from that of light. But against this opinion we adduce the following facts. Light passes through glass instantly, heat very slowly. But a lens will ignite a combustible body before itself is hot; and the greater the convexity, that is the thicker the lens, the sooner is this effected. If a number of lenses be employed the igniting power is greatly increased, heat is produced more instantaneously. Again a black colour favours the trans-

mission of heat and intercepts that of light. When solar observations are made, a dark glass is interposed to shield the eye from the light; but it also defends it from the heat, the contrary of which ought to occur if heat proceeds from the sun; the dark glass should facilitate its transmission. Two inferences, strictly logical, may be drawn from these facts; first, that the heat produced as above, does not radiate from the sun; and secondly, that it is produced by the concentration of the rays of light. We are acquainted with only one effect of light upon inanimate bodies, and this is decomposition. Several medicines are injured by long exposure to light, and colours fade from the same cause; that is the surface which reflects the colour is in part changed. Now in most decompositions heat is given out.* We may therefore conclude that light by decomposing a body, causes an evolution of latent heat. In the ordinary light of the sun this is slowly effected, but when a great number of rays are thrown upon one focus, particulaly if the colour on which the focus is formed do not reflect the rays, heat is instantaneously evolved, even to the degree of ignition. That reflected light from the moon does not evolve heat is no objection to this theory, for it does not appear that its rays are sufficiently numerous to effect decomposition.

Whatever be the true theory of the production of heat by the sun's rays, the fact cannot be doubted; and there is the fullest reason to expect, from the more ready admission of them to our soil, by the levelling of forests; and from its more complete exposure to their influence by different agricultural processes, that the surface of our continent will become many degrees warmer. The effects of this change will be extended from the interior to the coast, by means of the westerly winds, which prevail in all high latitudes. We proceed to the explanation of this fact.

'The air under the sun's path, being heated, becomes specifically 'lighter, and escapes to a colder region. Its place in northern lati-'tudes, is supplied by a column of air from the north-east; but the

* If we were not afraid of entangling ourselves with unnecessary theory, we should ascribe this to an union of oxygen with the substance decomposed.

'place of that column is also to be supplied; for a constant equilibri-
'um must be preserved. The heated air, from the sun's path, rising
'to the upper regions, escapes to the northward. In a short time it
'loses its heat, and moves to the eastward, to supply the place of
'that column which had lately formed the trade wind, by passing to
'the south-westward: thus in high latitudes, the prevailing winds
'should come from the westward, because in low latitudes they come
'from the eastward. That is to say, the trade winds should be east-
'erly, and in higher latitudes the winds should be westerly.'—p. 6. 7.

Several extracts from registers of the weather are given in note A. Three of these are from observations made near Philadelphia, in which "no account is taken of "the wind when it blew from the north or the south; nor "when it blew from the west and from the east in diffe-"rent parts of the same day. This register indicates the "days in which the wind continued westerly or easterly "through the day."

From October 1748, till Oct. 1749, the wind was westerly 218 days, and easterly 69 days, or nearly 3 1-2 to 1.

In the year 1767, the wind was westerly 225 days, and easterly 101 days, or nearly 2 1-4 to 1.

In the year 1772, the wind was westerly 209 days, and easterly 105 days, or less than 2 to 1.

The same fact is proved as it regards St. Petersburg, Utrecht, Dumfries, Lancaster, Dover and Edinburgh.

The fact of the prevalence of westerly winds in high latitudes being established, and it being well known that winds which cross a large tract of land, or which come from mountains, are colder than those from the ocean, it follows that the leeward coast will always be coldest. This in high latitudes is the eastern. So that it is unfair to compare our atlantic shores with the western coast of Europe. Our western coast will, however, bear the comparison. "Captain Cook, the celebrated navi-"gator, observed that vegetation at Nootka Sound, in the "latitude of forty nine degrees, was in great forward-"ness in April. Captain Magee, of Boston, who pas-"sed a winter at Nootka Sound, informed the writer, "that he saw little snow in that region." The eastern coasts of the two continents are also very similar in

climate. Pekin is nearly as far north as New-York; at the latter place we all know the severity of winter, at the former, " the average degree of the thermometer is under " 20 in the night, during the winter months, and even in " the day, it is considerably below the freezing point."* As a contrast with these, Madrid may be taken, whose latitude is nearly the same, and where winter is but nominal. Great Britain and Kamschatka, differ but little in their boundaries of latitude, and exemplify the difference of the climate of the western and eastern coasts of the same continent.

From the comparison of easterly and westerly winds near Philadelphia, it will appear that the ratio of the former is increasing. This, if it continue, will reduce the average frigidity of our climate; for easterly winds, coming from the ocean, are warmer than westerly winds, which come from the land, and often from mountains.— Thus far then, the eastern coasts of either continent are similar in their winds and climates, making allowances for the aspect of the countries. And at Pekin, cold winds are brought from mountains, as well as at New-York. We think, however, that the Gulf stream will always make our winds different from those blowing over any other eastern coast. This stream of water, warm from the tropics, lies along our shores, and must add greatly to the causes producing westerly winds. The air above it being heated, rises, and draws a current over us, to supply its place. This is a permanent cause, and will always subject the climate of our coast to vicissitudes, which will make investigations of its nature highly interesting to the American physician.

Dr. Williamson next combats the idea that the aborigines of the American continent are an inferior race of men. This is included in the more comprehensive hypothesis that there are many races of mankind sprung from different originals. This has always appeared to us one of the strangest questions ever agitated. It dis-

* See Pinkerton's Geography.

plays a singular inconsistency, in speculative philosophy Point out to a sage some wonder in nature, and hint that it cannot be rationally explained, but by a reference to the Deity, and he will hunt through every field of his mind, memory, judgment and imagination, to find a natural cause; he will add thousands of years to the age of the world; he will assert or deny a deluge, and he will melt the earth, rather than yield one inch of philosophical ground. But attempt to account for the varieties in the human appearance and conformation by natural causes, and he refers them to a miraculous origin. We sometimes elicit truth from collateral evidence,—what if it were attempted in this case; the house is divided against itself, and it cannot stand.

'The argument by which it is contended, that the human race are 'not all of the same species, appears to rest upon their difference 'from one another in shape and colour; but this argument would be 'weak and futile, if it was applied to vegetables, or to animals of any 'other kind. The species of plants cannot be distinguished by colour. 'The ranunculus, in its native soil is always yellow, when it is trans-'planted, it acquires various colours. Tulips, auriculas and dianthuses, 'of the same species, differ greatly from one another in colour.— 'The smell, taste, colour, and size of pears and plumbs are changed 'by the difference of air, water, climate, and culture. The changes 'that quadrupeds sustain by heat, cold, soil, climate, and food, are not 'less remarkable than the changes that are observed in vegetables.— 'The farther they are removed from their native soil, wherever it 'lies, the greater changes they sustain in shape and colour. Quadru-'peds of the same family, in the state of nature, are generally of one 'colour; but they become of various colours by domestication and 'rich pastures. Wild cattle are brown; tame cattle are of many 'colours. Horses, deers, and goats, brought into a state of servitude, 'or handled and fed by men, change their colour. The horse of Ara-'bia is strong and beautiful, with short hair and a smooth skin. In 'Russia he is clumsy, with a large head, and is clothed in winter 'with a shaggy, frizzled coat. In China he is weak and spiritless.— 'The cow among the Eluth Tartars is seven or eight feet high; in the 'highlands of Scotland she is four feet high; in Cuba she has large 'horns; in Iceland no horns. The sheep, in its wild state, among the 'mountains of Great Tartary and China, is large and bold, high as 'deer, and covered with hair. In Muscovy, Iceland, and some other 'cold countries, it has four or six horns; in temperate climates no 'horns.' &c.—*p.* 35, — 37.

There is an obvious dilemma in which the advocates for a plurality of races of men are entangled. If their assertions be true with respect to man, they must be equally so with respect to all animals. But we may have evidence, almost every century, that all the varieties above noted are interchangeable ; and surely if a sheep without horns, and another with six horns, can descend from the same parent ; if a cow four feet high, and another seven feet high, acknowledge the same progenitor, we may allow men to differ in facial angles and gibbous legs, in flat foreheads and projecting cheek-bones.

We cannot but remark, that in all the changes which are produced by climate and other natural causes, there is no variety in any essential organ ; the brain, heart, liver, &c. never change their form or appearance, the teeth also retain their character. Accordingly, naturalists have adopted some of these parts as affording permanent signs for specific distinction. There is not a single difference in these signs to distinguish mankind into species. We do not believe that the most accurate anatomist could distinguish between the brain of a white man and that of a negro, certainly he could find no general difference in the other parts. Gibbous legs, flat foreheads, and coloured skins, may constitute varieties, but varieties are not predicated upon aboriginal difference.

Our author next defends the mental qualities of our aboriginal brother, from the obloquy that has been heaped upon them. He points out the natural causes which depress the intellectual faculties among all uncivilized nations, and some which are peculiar to the condition of our savages. But we cannot condense his remarks.—We also "are "much interested in the fate of the question," whether the faculties degenerate on this continent, and it cannot be answered better than by pointing out the causes, which have made our literary career less prosperous than our political. In the first place, the commercial goddess, with the splendid cornu of plenty, have proved more alluring than the pale visage of science. Our attention also has been turned to the peopling and cultivating our interior.—

The circumstance of our having no richly endowed literary institutions of long standing, also co-operates; great and extensive learning cannot be diffused without a centre of radiation. Indeed most of the *treasures* of learning are locked up in universities, the wide world is fit for circulating only the smaller coin. We may add, that the facility with which we import European discoveries, has added to the dependant state of American science.

Having thus shewn that our climate, neither by frigidity nor any other cause (mystery always excepted), is calculated to deteriorate the human faculties; that the hypothesis of distinct races of men, is applicable neither to the old world nor the new, it remains only to shew from whence America was settled. Reasoning on this subject, it must be remembered, can never be conclusive, it is a question purely speculative. Some of our nations spring out of emigrations from Norway to Iceland, Greenland, and Labrador (once called Vinland). Others passed from Tartary, and crossed Bhering's Straits, or from one to another of the " little islands, between the northern parts of Asia and America." And that the Peruvians came from India, although at first sight, it seems scarcely credible, is not a mere hypothesis. The Hindoos had a hero or deity named Rama, his wife's name was Sita: " the chief festival " among the Peruvians, was called Ramasitoa." That they possessed nautical skill sufficient for the voyage, is probable from the circumstance of their vedas containing some regulations concerning " mercantile adventures " at sea."

The following remarks respecting the increase of cold and ice in high northern latitudes are very ingenious.

' Upon the supposition of a general deluge it will be admitted, that ' immediately after the flood there could be no ice in any part of the ' ocean. The waters in the northern regions were exactly of the same ' temperature as the waters in the other parts of the ocean, for they ' had the same origin. The fountains of the great deep were broken ' up. The temperature was thirty or forty degrees above the freez- ' ing point. In that case, the air in Iceland, or upon the Labrador coast, ' coming from the temperate surface of the ocean, was temperate and ' pleasant. Vegetation in the long days of summer was vigorous, and ' the winter was not sufficiently cold to destroy perennial plants. In

'the process of time the waters near the poles lost a great part of 'their heat, and ice was formed in the creeks and bays. Large cakes 'of ice were occasionally broken off by storms and detached from the 'shore. As the temperature of the ocean decreased, some part of the 'broken ice continued to float through the summer. Every succeed-'ing year added to the size of the floating masses.* They were in-'creased by rains, by snow, and by the spray of the sea. The nor-'thern ocean is nearly filled at present by those floating islands of 'ice.' p. 107. 109.

We quote the following as a good specimen of Dr. Williamson's characteristic simplicity of style. It has not the air of deep disquisition, but it is exactly such as we should wish to find all speculative writings, precise in argument without being pompous, and modest in announcing a conclusion.

'The deep and extensive masses of marble, chalk, limestone, and 'other calcareous bodies, that are to be seen in every part of the globe; 'the numerous and thick strata of fossil coals, that are found in differ-'ent parts of the earth, have been stated as a proof of its great dura-'tion. Mountains of limestone and marble, immense bodies of chalk 'and marble, are found in Siberia, Sweden, Germany, Switzerland, 'France, Spain, England, and every other part of the habitable world. 'If we suppose, with some of the moderns, (Dr. Hutton, &c.) that all 'calcareous bodies are formed from the shells, bones, or other exu-'viæ of different animals, a countless duration of years would be fully 'established; for it is believed that nearly one fourth part of the dis-'coverable earth is calcareous. This argument, however, is not con-'clusive, for there is reason to believe that calcareous earth is an ori-'ginal substance, from which shells and bones are formed; but not vice 'versa. This kind of earth abounds in marine plants, and in the waters 'of the ocean, that give sustenance to fish; it is also a constituent part 'of the food of all terrestrial animals. For these and similar reasons, it 'may be questioned whether the existing quantity of calcareous earth 'has ever been increased by the growth of animals.

'It has been supposed that fossil coals are formed from vegetables 'that have been covered in the earth. This hypothesis is urged as a

* It is a curious fact, and in perfect coincidence with this theory, that when the first Norwegian colony settled in Greenland, about one thousand years ago, they found no difficulty in approaching the coast, and a regular correspondence was supported with those people for many years. That intercourse was entirely neglected during the dark ages of anarchy and misrule in Europe. Since the revival of learning, within the two last centuries, sundry attempts have been made to discover the remains of that colony who lived on the eastern part of Greenland; but no landing can now be effected on that coast, by reason of the vast bodies of ice with which it is pressed. From this it is clear, that within the last seven or eight hundred years there has been a great increase of ice in high northern latitudes.

'proof of great antiquity. The quantity of coals that has already been 'discovered is very great. They are found in all countries where 'fuel is in much request. They lie stratum below stratum, to a depth 'that has not been ascertained. A stratum was long since found in 'the Austrian Netherlands, that was 300 yards below the surface. The 'strata of coals lie parallel to one another, at the distance of 100 or '200 feet, and they are separated by strata of slate, limestone, grav-'el, and sundry kinds of earth. Twenty strata have been wrought in 'the vicinity of Liege. They differ in thickness from two feet to for-'ty. It is admitted that timber has sometimes been found below the 'surface, converted into coals; but a few instances of petrolated 'wood, cannot be given as a proof that fossil coals are usually formed 'of vegetables. The quantity of bitumen that is daily discharged 'from springs and lakes, affords a sufficient proof, that the earth 'abounds in that substance; and it is clear that the inflammable part 'of coals is bitumen. The ashes of all vegetables afford an alkali; 'but none is found in the ashes of common fossil coals; from which it 'is clear that they are not vegetable productions.

'Another argument in favour of the great duration of the earth, is 'taken from the abundance of marine productions that are found in 'every part of the world. Marine shells are found in the Alpine rocks, 'in the Pyrenees, and in the hills of Barbary. In the mountains of 'Tyrole and Calabria; in those of Lybia, China, Persia, Syria, and all 'the great mountains of America. Numerous bones of the elephant* 'and rhinoceros are said to have been found in Siberia at some depth 'below the surface. From these circumstances it is clear that great 'revolutions have taken place on the surface of the earth, which seem 'to indicate a vast duration. It is presumed that much of the land 'upon which the ocean dwells, was formerly subjected to the plow; 'for it is clear that much of the present dry land has been covered by 'water. But these phenomena, in their utmost extent, are not un-'friendly to the chronology of Moses; they rather lend it their sup-'port; for they seem to have been caused by that very deluge which 'is mentioned by the sacred historian.' p. 145. 150.

* It may be suspected that the large bones which have at sundry times been dug up in Siberia, were the bones of that family of quadrupeds, of which an entire carcase has lately been found near Yakoutska, and which had formerly been numbered among the inhabitants of North America. But if the bones of the elephant and rhinoceros have been found in Siberia, as the observers have confidently asserted, it is an incident that cannot be accounted for by any tenable hypothesis, except by recurring to a great and general deluge. But how could it happen that the bones of sundry animals should be found above 2000 miles distant from their native climate? This question is solved by alledging, what is nearly certain, that when "the fountains of the great deep were broken up," the chief lacerations were made in the southern hemisphere, and the waters rushed with a strong current to the northward. In that case they carried with them the carcases of many quadrupeds, &c.

Until we recollected the years which honour the head of our author, we were astonished at finding him a stickler for an orthodoxy almost obsolete. It afforded a repast to our antiquarian curiosity, to witness his patience in searching the Mosaic history. We shall lay by the work, as a legacy for posterity some centuries hence, as a philosophical book, on a speculative subject, written as late as 1811, by a Christian. At that distant age, it will doubtless be recorded, that, " at the beginning of the nineteenth century " the *wisest* part of the world, were idolators. For idols " of matter, was substituted an idol of the mind, and the Ju- " piter, Parcæ, Brahma, Fo, &c. of gross heathen, were " spiritually embodied in a more powerful deity, whom " they called Chance. This being, though ideal, had a de- " pendant mythology. They conceived the earth to have " been struck off from the sun ; but this perhaps, was bor- " rowed from the Egyptians, who traced the Nile to the " mountains of the moon. They believed, the great rocks " of limestone to have been deposited by shell fishes ; these " must have been ranked as demigods from their labours, " and were made co-adjutors with chance, because their u- " nited activity was accounted more philosophical than the " fiat of omnipotence. They fabled that chance cut off the " tails of monkeys, shaved their hides, and sent them into " the world to improve and civilize: and that when she " had put men-monkeys upon one continent, she found " them unfit for another, because they had not high cheek- " bones, bandy-legs, small facial angles, and black skins. " And lastly that finding her monkeys improve too fast, " she sent some new ones into the wilds of America, to " remain in a meaner state of animal amplification ; for " securing which, she created in the soil an essential frigi- " dity, and mingled for its climate a vicious combination " of elements."

II.

Medico Chirurgical Transactions, published by the Medical and Chirurgical Society of London, Volume III. 8vo. pp. 383 ; with seven plates. Longman and Co. 1812.

From the Edinburgh Medical and Surgical Journal.

It has been a subject of frequent observation and regret, for which indeed there has been but too strong a foundation, that with whatever portion of zeal the votaries of medicine have set forth in their professional career, they have too commonly sunk into mere practitioners, and have ceased to contribute their assistance to the improvement of medical science, in proportion as their opportunities and accumulated knowledge rendered them capable of supplying the defects and elucidating the obscurities of their art. Even the best efforts that have been made to bring the stores of experience before the public, seem to have been forced, and therefore transient,—depending in reality upon the personal influence and exertion of two or three active and zealous individuals. Thus to the indefatigable ardour of the first Professor Monro, the public is almost exclusively indebted for the commencement, and entirely for the continuation of the valuable collection of "Edinburgh Medical Essays and Observations," the first specimen of this sort of thesaurus ever published. In like manner, the brief and transient activity of the College of Physicians, in London, which produced three useful volumes of "Medical Transactions," but which has produced nothing more of this sort during as many centuries, appears to have been suggested and carried into effect principally by the zeal of the late amiable and learned Dr. Heberden, whose contributions to the stock of information were both numerous and valuable. And a third and highly valuable collection of papers, the "Medical Observations and Inquiries," appears to have been the

result of the united energies of Dr. Fothergill and Dr. William Hunter. The transitoriness of all these publications, therefore, has been only commensurate with that of individual life and strength ; increased, in the first and last instances, by the privacy of the association which gave them birth ; and, in the second, by the more important political duties of the corporation, which are, in fact, the sole objects of its constitution. It is, therefore, consolatory to observe a society which is instituted upon public principles that may lead to a more permanent establishment, and whose object is exclusively the furthering of medical science, proceeding with the energy and ability, which the speedy publication and valuable contents of this third volume evince,—an energy which appears to

" Grow with its growth, and strengthen with its strength,"

and affords an earnest of a long continued and fruitful harvest.

The volume opens with an interesting paper of Sir Gilbert Blane's, relative to intermittent and remittent fevers, and the exhalations which occasion them ; being chiefly the result of his official investigations of the diseases, which occurred among the English troops in Zealand, in the autumn, 1810. Next to the able, elaborate, and comprehensive work of Dr. Bancroft, the terse and sensible paper before us may be deemed the most satisfactory document extant upon the subject of marsh effluvia, and of the origin of the endemics to which they every where give rise ; and the exact correspondence of the facts and inferences, collected by Sir Gilbert Blane, with those so satisfactorily stated by Dr. Bancroft, is gratifying to the mind that seeks anxiously for truth, amidst a mass of contradictory evidence. Sir Gilbert shews, that, notwithstanding the great extent of the sickness, which, at the time of his arrival, rendered two thirds of the army incapable of duty, typhus and dysentery had not appeared except in one or two regiments situated in particular circumstances at Flushing ; the whole of the patients were affected by the endemic of marshy districts, which had in a similar manner affected the French troops, who had

occupied Flushing during the preceding seven years, and in former times also the Dutch troops from the northern parts of the United Provinces.

The same general facts, which have been observed under similar circumstances elsewhere, were here ascertained by Dr. Blane ; and had been distinctly made out by General Monnet, during his long residence there, as was evinced by a *memoire* found in his house. These facts are, the greater liability of new-comers to be affected by the effluvia ; and especially of those who come from mountainous and dry countries ; the effect of warmth, good diet, and comfortable accommodations in securing individuals from their influence,—the short distance to which their influence reaches either in perpendicular altitude, or horizontally,—the more deleterious qualities of these effluvia than those of the marshes in England, and the progressive increase of malignity in the miasmata of more southern climates,—the long period during which the infection by miasmata often lies dormant, so as to be excited to action by fatigue or exposure to cold some time after the persons have removed to another country,—and the liability to relapse from the same causes,—and, lastly, the obvious connection of these remittents and intermittents with an excessive secretion of bile.

The following practical remarks, as they accord with the statements of the best writers on the *yellow* fever, and other forms of the remittents, deserve to be impressed upon the minds of all practitioners, who may have occasion to meet disease in marshy regions ; the repetition of them, however, is, we trust, becoming every day less necessary, as the propriety of regulating the functions of the alimentary canal, and of avoiding stimulants in the early stages of *all* fevers, is daily more clearly perceived.

'It is evident,' says sir G. Blane, 'that the severity of the symptoms of the Zealand fever, added greatly to the difficulty of the cure ; 'and there could be *no opportunity* of employing Peruvian bark or other specific remedies, till its violence had abated, and the redundant bile had been carried off. The treatment of the acute state, 'consisted chiefly in giving such remedies as *purged freely* ; and in select-

'ing them, the preference was due to those which acted most readily 'on the liver and the bile, such as calomel; those which were least 'heating, as the neutral salts;—and such as were best borne by the 'stomach, which, in a great many cases, was extremely irritable.'

The author bears strong testimony to the powers of opium and arsenic, in curing intermittents, and also remittents, when a complete intermission has been obtained by purgatives of calomel. He administered from 30 to 50 drops of the tincture of opium, a few hours *before* the expected paroxysm. "Sometimes the first administration of "this stopped the paroxysm; but more commonly only al- "leviated it, and did not stop it till the second or third "time." Arsenic was given in the intervals, especially where the stomach would not bear bark; and Sir Gilbert states, that he has made little use of the oxide of zinc, steel, &c. since he became acquainted with the superior powers of opium and arsenic. We shall have occasion to allude to the peculiar advantages of giving an opiate *previous* to the commencement of the paroxysm, in intermittent diseases, before we conclude this article.

We regret that the number of topics, pressing for notice, prevent us from following the author, through the remainder of this paper, and its appendix, which contain some interesting observations on the variations of health in this country in different periods of its history; these are, however, less original than the preceding portion of the Essay.

Mr. Chevalier has contributed three well detailed papers to this volume, the first of which is the "History of a "remarkable case of Ovarian Dropsy," in a young woman, of 23 years of age. The enormous bulk of the abdomen, which measured sixty-three inches and a half in circumference, and contained (it is estimated) seventeen gallons of water, is the most extraordinary feature of the disease: and the great weight of the fluid was the principal inconvenience suffered by the patient: for the bowels continued regular, and the pulse and respiration were unaffected. An attempt to relieve her of this cumbersome load was made judiciously by moderate successive tappings; but one of two large cysts, connected with the left ovarium, was subsequently affected with a slow, but extensive in-

flammation, which ended her life in the space of two months.

In a second short paper, Mr. Chevalier describes "an "improved method of tying diseased tonsils," which he illustrates by an engraving, representing the sort of noose which he employs. He *pierces* the enlarged tonsil through the middle of its base, and carries a long double ligature through it, which he brings out at the mouth, and divides, tying one portion round the upper, and the other round the lower half of the tonsil. This produces a good deal of inflammation for about three days; but the tumour is generally detached on the 4th or 5th day, and the sore readily heals.

Mr. Chevalier's third paper contains an interesting "case of spontaneous extravasation of blood, within the "theca vertebralis, which soon terminated fatally." It occurred in a girl of 14, and was accompanied by pain in the back and head, with sickness on sitting up, and a quick pulse. At the end of about a fortnight, she complained of a sudden and violent increase of pain, and was immediately seized with convulsions, in which she expired. On examination, the brain and all the viscera were found to be healthy, and the spine was free from any external morbid appearance: but having cut away the bodies of the lumbar vertebræ, close to the seat of pain, Mr. Chevalier discovered the spinal canal filled with blood. "The blood, though "florid, was not all of an equal tint, it was very imperfect-"ly coagulated; it is therefore probable that the vessel "first gave way at the commencement of the illness, and "again to a much greater extent at the time the convul-"sions came on." Mr. Chevalier mentions also the case of a child a year old, which, after being carried out by a nurse, returned in great pain, and appeared to have lost the use of its lower limbs. It died in three days, and the spinal tube was found filled with a bloody serum, probably "occasioned by slight extravasation from a strain, and "subsequent inflammatory effusion." He likewise mentions the case of a miller, who suddenly lost the use of his lower extremities by lifting a heavy sack, and died in a fortnight. The vertebral canal was found to contain some

blood mixed with a sanious matter, and the theca vertebralis was evidently inflamed.

These cases he considers as a sort of partial spinal apoplexy, which should be treated by early bleeding, in order to prevent the increase of the extravasation.

Dr. Merriman communicates two papers on obstetrical subjects, the first of which contains an account of "a case "of difficult parturition, occasioned by a dropsical ovari- "um, forming a tumour in the lower part of the pelvis," intended as an illustration of a paper by Mr. Park, of Liverpool, published in the second volume of the Society's Transactions. This woman was parturient of twins, one of which was delivered after opening the head, the other, which was dead, by the natural efforts; but she died of subsequent peritonitis.—In such a case, the practice adopted by Mr. Park, of opening the impeding tumour, (which here lay between the rectum and vagina of the size of a trap-ball,) through the vagina, might have saved the life of one child and the mother. But Dr. Merriman enters into a discussion upon the question, of making an incision into those other tumours of the pelvis, which contain no fluid, but teeth and hair, &c. which are sometimes also impacted in the pelvis; and he concludes that an operation might still be practicable and safe, extirpating either the encysted mass, or the whole diseased ovarium.

The second paper of Dr. Merriman is entitled, "Cases "of premature labour, artificially induced, in women with "distorted pelvis, to which are subjoined some observations "on this method of practice." This is a sensible dissertation on the subject of a practice, which has been occasionally adopted in this country for upwards of half a century, but which has been absurdly condemned by some individuals upon moral grounds. Its physical advantages being fairly estimated, and found to predominate greatly over those of every other proceeding, it were but a waste of words to argue in favour of the use of a practice, against which the possible immoral abuse can alone be urged. Dr. Merriman states the following among other rules by which the adoption of the practice ought to be limited. That the ope-

ration should never be undertaken,—till (1) seven complete months of utero-gestation have elapsed,—and (2.) till it has been ascertained by *previous experience* that the mother is incapable of bearing a full-grown fœtus alive,—nor (3.) when she is labouring under any dangerous disease. He suggests too that every care should be taken to guard against the attack of fever, which is not an unfrequent consequence of the premature uterine action; and "lastly, that a regard to his own character should determine the accoucher, not to perform this operation, unless "some other respectable practitioner has seen the patient, "and has acknowledged that the operation is adviseable."

Mr. Parkinson relates a case of disease in the appendix cæci vermiformis, which terminated in ulceration and opening, through which a fluid escaped into the cavity of the peritonæum, and produced a fatal inflammation of that membrane.

Two communications have been presented to the society by Mr. Lawrence, the first of which contains the history and dissections of five varieties of disease, partaking of a fungus character, and occurring in several internal and external organs of the individuals at the same time: some of them resemble the morbid growth, which Dr. Farre has described as the tubera diffusa, affecting the liver, brain, lungs, &c. The first case is related by Mr. Henry Earle; in which the disease occurred most conspicuously in the testicle; but was found on dissection both in the brain and the lungs. In the first of Mr. Lawrence's cases, the fungus growth, the most striking character of which was its "bright yellowish green colour, intermixed with more or "less red, and a few portions nearly white," covered the chest, penetrating the pectoral muscles, and filling the axilla: it affected also the right pleura, especially over the diaphragm, and the peritonæum beneath it; it was found in the pancreas and kidney, and very extensively in the lymphatic glands, in various parts of the body.

No inferences are attempted to be deduced from these singular and anomalous appearances, which can only cease to be anomalous, when the industry of practitioners shall

have multiplied the number of records relating to them, and traced their common character.

The second communication from Mr. Lawrence, is a history of a case of a somewhat similar character with the preceding, in which the disease, lately called fungus hæmatodes, appeared also in various external and internal parts, and terminated fatally. It is related by Mr. Langstaff, of Basinghall-Street.

Dr. Farre has given the detail of two cases of "cynanche laryngea," that fatal variety of sore-throat, which has not been sufficiently noticed until within these few years, when it deprived the profession of two distinguished members, Dr. Pitcairn, and Sir John Hayes, and has commonly been confounded with *croup*. The second case, in which life was obviously prolonged for a day by the operation of bronchotomy, we shall transcribe.

"A poor, but industrious and temperate man, about 60 years old, on 'Sunday the 31st of March 1811, was affected with a painful and difficult deglutition, On the following morning, April 1st, alarmed at 'his inability to swallow fluid, which on the attempt being made, 'returned by his nose, he sent for Mr. Weston, who found the tonsils 'inflamed and disposed to ulcerate. A brisk purge was ordered. At 'ten o'clock on the same evening, his respiration suddenly became difficult, when Mr. Weston immediately drew from his arm 32 ounces 'of blood, which proved to be very sizy. In the course of an hour I 'attended, and observed the character of his disease at this stage.— 'Although the tumefaction of the tonsils was inconsiderable, deglutition was extremely painful, and very difficult: respiration was performed with convulsive and long continued efforts; his voice was 'nearly inaudible, and he could only whisper. He answered my inquiry respecting the seat of his suffering, by putting his finger on the 'superior part of the thyroid cartilage. He felt no pain in the chest. 'All the muscles of respiration were thrown into violent action, and he 'lay with his mouth wildly opened, pupils dilated, face pale and sunken, skin covered with a clammy sweat, and his pulse at 133 and small. 'His powers were prostrate, and general bleeding could not be repeated. The anterior part of the throat was covered with leeches; but 'the disease never paused. At midnight, the operation of bronchotomy seemed to be the only resource; and soon after one o'clock, I 'decided on its employment. About two o'clock, Mr. Astley Cooper 'attended, and as suffocation was instantly impending, the operation 'was immediately performed, by dividing, laterally, the ligament which 'connects the thyroid with the cricoid cartilage. The dyspnœa was

'much relieved by the operation. He now lay passive, breathing by 'the natural and artificial apertures, and the inordinate action of the 'muscles of respiration had ceased. He swallowed some nourishment 'with a painful effort. In this state he passed the night, and the greater 'part of the following day. In the afternoon, the respiration by the 'natural passage entirely ceased, but was continued by the artificial 'aperture. He was now evidently sinking, and expired at six in the 'evening.

'April 3d, eight o'clock, A. M. Dissection by Mr. Astley Cooper. 'The right tonsil inflamed and vesicated; the epiglottis swollen, its 'edges meeting behind, excepting just at the upper part. Pharynx 'inflamed, somewhat vesicated, covered with coagulable lymph about 'the epiglottis, but free from inflammation near its termination in the 'œsophagus. The aperture which had been made between the cartilages, 'appeared to be about half the size of the glottis. The mucous mem-'brane of the larynx and trachea was pale. There was some accumu-'lation of mucous in the cells of the lungs, and a slight effusion of se-'rum into their reticular texture. The left pleura partially adhered, 'and the cavities contained rather more fluid than is natural to them. 'The abdominal viscera were not examined.

'I may be allowed to remark,' Dr. Farre adds, 'that Cullen's char-'acter of his fourth species of cynanche, will not embrace the cases 'which I have above described. "Cynanche (Pharyngea) cum rubore 'in imis præsertim faucibus; deglutitione maxime difficili, dolentissi-'ma; *respiratione satis commoda*; et febre synocha," The anterior 'part of the pharynx was indeed the seat of inflammation; but that 'portion of the membrane being also common to the larynx, it may, 'in a practical sense, be useful to term the disease *laryngea*, because 'it proves fatal by constricting or actually closing the glottis, and con-'stitutes precisely that case which, in its ultimate degree, imperiously 'demands the operation of bronchotomy."

The interesting conversation, which took place in the society when this paper was read, induced Dr. Farre to bring the subject forward again, in a paper printed in a subsequent part of the volume, in which he dwells principally upon the diagnosis and method of treatment of this insidious species of cynanche. The inflammation is most intense at, if not chiefly limited to the mouth of the larynx, whence the rima glottidis becomes so much narrowed as to impede respiration. It cannot easily be mistaken for cynanche tonsillaris; for the visible affection within the fauces is often extremely slight. The principal painful sensation is also felt in the larynx, or about the middle notch of the thyroid cartilage. The difficulty of diagnosis lies

between this cynanche laryngea and croup. Dr. Pitcairn wrote on a piece of paper, that his complaint was croup. But, Dr. Farre observes,

'In the cynanche laryngea, the symptoms are, uneasy sensation in 'the larynx, difficult and painful deglutition, partial swelling in the 'fauces, a supervening and perpetually increasing difficulty of breath-'ing, inflammatory fever. In the cynanche trachealis there is a diffi-'culty of breathing, without any swelling in the fauces, or painful 'deglutition, the expirations, especially in coughing, are very shrill, 'the fever is inflammatory.'

The morbid appearance, ascertained by dissection, are considerably different in the two diseases.

'In the former (laryngea), the mucous membrane, investing the 'epiglottis and margin of the glottis, is inflamed; serum is effused un-'der it, or coagulable lymph on its *external* surface, by which the *rima* '*glottidis* is narrowed, or actually closed. In the latter (croup) the 'mucous membrane of the larynx and trachea is inflamed, and a layer 'of coagulated lymph is formed on its *internal* surface, from the ex-'tremity of the epiglottis to an indefinite extent within the trachea, 'by which *the tube itself* is narrowed or actually closed: a puriform 'fluid, instead of mucous, is found in the trachea and bronchia.'

The treatment recommended appears to be judicious; namely, copious blood-letting in the first stage of the inflammation, i. e. within 30 hours of its commencement, when the patient feels uneasiness in the larynx, with a very painful and difficult deglutition, which the apparent state of the fauces cannot explain. But if this fail to relieve, and the dyspnœa supervenes, the narrowing of the glottis has commenced; and in this dangerous stage, in which effusion is going on, free local blood-letting, with calomel and tartarized antimony internally, to diminish the activity of the capillary circulation, are advised. But in the advanced period, bronchotomy affords the only chance of escape from suffocation, by enabling the patient to breathe, till the inflammation narrowing the aperture of the glottis may have time to subside.

'That the disease is a local one,' Dr. Farre observes, 'that it is 'acute and of short duration, that it affects a mucous membrane, 'which consequently does not readily take on the adhesive inflamma-'tion, or if it should be so acutely inflamed, easily sheds the lymph 'that had been effused on it, are circumstances which, in the otherwise 'hopeless state of the patient, justify a trial of this operation.'

We have dwelt a disproportionate length of time on this topic, on account of the importance and novelty of the disease, which nothing but a sagacious and early discrimination, and an active employment of appropriate treatment, will enable the practitioner to manage with success.

Dr. Yelloly has related an interesting case of Anæsthesia, which sets at defiance all hypotheses, concerning the nature and communication of nervous influence. This occurred in a middle-aged man who had spent many years in Jamaica. He gradually lost all sensation in a great part of the legs and arms, while the power of muscular motion, and the command of the will over the muscles, remained as usual; at the same time the circulation continued active, and the process of healing, when the parts were injured, was quick and natural. We shall quote a few symptoms.

'The hands up to the wrists, and the feet, half way up the leg, are 'perfectly insensible to any species of injury, as cutting, pinching, 'scratching, or burning. The insensibility, however, does not sudden-'ly terminate; but it exists to a certain degree, nearly up to the el-'bow, and for some distance above the knee. He accidentally put one 'of his feet, some time ago, into boiling-water, but was no otherwise 'aware of the high temperature, than by finding the whole surface a 'complete blister on removing it. No species of injury to a vesicated 'part is felt by him. The extremities are insensible to electrical sparks, 'taken in every variety of mode. The cubital nerve, where it passes 'the elbow, communicates the sensation produced by pressure or a blow 'only half way down the fore-arm.'—'If he wishes to ascertain the 'temperature of any body, he is under the necessity of putting it to 'his face, or neck, or the upper part of his arm.'

Yet there is an unusual irritability of the skin, especially under the influence of heat. For

'On putting his hand, at the desire of a friend, into a pail of hot 'grains, which his friend assured him were not too hot, and to convince 'him of this, previously thrust his hand and arm into it, there was a 'very extensive vesication produced. His hands are never free from 'blisters, which he gets by inadvertently putting them too near the 'fire; and he has met with several severe burns, without being aware 'of it.'—'His skin, in general, heals very readily, after being burnt 'or scalded in the most severe way; and there is no fever, nor is there, 'as far as he has been able to determine, any increased heat or throb-'bing during the process of healing.'—Yet 'immersion in water at '120° produces no change in the affected parts; but exposure to

'the same temperature at a common fire speedily blisters."—"Cold 'water and warm water of every temperature invariably appear luke-'warm to him.'—'The power of motion exists in the muscles of both 'hands and feet. With the former he can grasp pretty firmly; but in 'holding any thing he is apt to drop it, if his attention is at all called 'away.'—'The functions are natural, and the pulse regular and mode-'rate.'

The insensibility exists in the muscles as well as integuments; for he allowed the fleshy part of the thumb to be piereed to the bone by a couching needle, from which he experienced no sensation whatever. No treatment, such as the warm bath, electricity, galvanism, tonics, rhus toxicodendron, and mercurial purgatives, produced the least influence on the disease.

Dr. Yelloly has added two analogous cases, one from the American Medical Repository, Vol. IV. p. 225, and another from the "Philosophie Zoologique," Tom. II. p. 262, of Lamark.

Dr. Bree communicates another "case of splenitis, with "further remarks on that disease," which, like the instance related in the preceding volume, evinces the advantage of a steady purgative course in such affections. And Mr. Copeland describes the case of a lady, who had an abscess in the groin, from which a calculus was extracted, after it broke, of an oval form, and more than half an inch in length. This was not a biliary calculus, like that discharged in a case related by Petit, to which Mr. Copeland refers; but was found by Dr. Marcet to be of the fusible kind, consisting of the mixed phosphat of lime and ammoniaco-magnesian phosphat.

Two contributions of Dr. Bostock are characterized by the usual accuracy and perspicuity, which mark every production of his mind. The first consists of some very interesting and novel "observations on diabetes insipidus." The existence of such a disease has of late been doubted, or altogether denied, the mere quantity of urine being considered as depending upon circumstances altogether different from the true diabetic diathesis. But although there was no saccharine matter in the urine of the patient, whose case is described by Dr. Bostock, he found, upon chemical ex-

amination, that it differed materially from healthy urine, inasmuch as it contained a very large proportion of animal matter. The residuum, left by slow evaporation of the urine, did not differ, in its physical properties, from the extract of healthy urine. But Dr. Bostock calculates, that, while his patient was passing 7 lb. troy of urine more than the average healthy quantity, she was discharging daily between 9 and 10 ounces of solid matter, or about 8 1-4 more than in the healthy state ; i. e. above 6 ounces of urea, and 1 1-2 of salts, more than natural.

To this case, therefore, though no sugar existed in the urine, Dr. Bostock conceives the appellation of diabetes is strictly applicable.

" It possesses the three pathognomonic symptoms of the disease, the ' increased appetite for food, the suppression of the cutaneous dis- ' charge, and especially, the evacuation from the urinary organs of a ' larger quantity than ordinary of animal matter. This latter circum- ' stance is essentially different from the mere increase in the quantity ' of water, a morbid state which has often been confounded with dia- ' betes, but from which I regard it as totally dissimilar.'

Dr. Bostock states a question, whether this disease is the commencement of diabetes mellitus, or has a tendency to terminate in it? which he is disposed to answer in the affirmative; more particularly from the consideration of a case communicated to him by Dr. Lewin. Shrewdly suspecting diabetes from some other symptoms, Dr. Lewin examined the urine, and found it copious : a specimen was sent to Dr. Bostock for examination. There was at this time no sugar ; but the urine being again submitted to chemical examination, at a subsequent period, was found saccharine.

' To Dr. Lewin's sagacity in detecting the nature of the disease in ' this early stage,' Dr. Bostock observes, ' we may consider ourselves ' as indebted for the important fact, that a small quantity of sugar can ' exist in urine along with a large quantity of urea. The case is al- ' most equally decisive in favour of the conversion of insipid, into ' the saccharine diabetes, and renders it probable that the two states ' alternate with each other, until, as the constitution becomes more ' and more impaired, the saccharine state of the urine predominates.'

We cannot omit the following statement.

' With respect to the *treatment* which was adopted in this case, I

'shall make only a very few remarks. As the urine was not saccha-
'rine, animal diet was not prescribed, and those remedies only employ-
'ed, which were supposed to have the power of strengthening the di-
'gestive organs, and reproducing a healthy state of the skin. For the
'former purpose, the preparations of iron were chiefly relied on, and
'for the latter the warm bath; but I suspect that the morbid symp-
'toms were so far connected, that whatever tended to relieve the one,
'was likewise beneficial to the other. The result was completely suc-
'cessful; the constitutional affections disappeared, the urine was re-
'duced to the natural standard, and the surface regained its healthy ac-
'tion. The patient has remained well for above 12 months.'

The second communication of Dr. Bostock is an account of some analytic "experiments on the bark of the "coccoloba uvifera," the extract from which is of a similar nature with the kino used in medicine; but the latter is obviously derived from a different plant. In 100 parts of this bark, there are 50 of woody matter, 41 of tan, and 9 of a balsamic substance.

This volume contains a valuable chemical memoir from the pen of Dr. Berzelius, the intelligent professor of chemistry at Stockholm, who spent the autumn of 1812 in this country: it relates to "the composition of Animal Fluids." As this memoir is itself a condensed summary of several publications, and occupies about eighty pages, we cannot here enter into a minute account of its contents. We may merely observe, that it commences with an analysis of bullocks blood, detailing the chemical properties of all its component parts, such as the fibrin, the colouring-matter, &c. and entering minutely into the investigation relative to the influence of iron in the latter, and then comparing the same parts of human blood, which differs in some respect from that of bullocks. The author then passes to the chemistry of *secreted* fluids, which he discusses generally and individually, including the bile, saliva, the mucus of various membranous organs, the fluids of serous membranes, and the humours of the eye; and afterwards examines the *excreted* fluids, perspiration, urine, and its depositions. He concludes with an analysis of milk. Prof. Berzelius appears to have carefully compared and repeated the analysis of other chemists, on whose inferences he comments with great ability; and on the whole has presented a clear,

original, and compendious view of the chemistry of the animal fluids. It tends greatly to establish the value of the recent chemical investigations on these subjects, to observe the accurate coincidence of these analyses, made in a distant country, with those of Dr. Marcet and Dr. Bostock, previously made here; for the difference between them is but in the fraction of units.

Through the hands of Dr. Marcet, by whom the paper just mentioned was introduced to the society, another curious memoir, drawn up by the patient. R. C. Esq. F. R. S. a well-known chemical philosopher, is presented in this volume. It relates to a new mode of curing chronic rheumatism, especially sciatica, which Mr. C. borrowed from *the stable*, after having exhausted, during a series of years, all the expedients of the materia medica, both regular and empirical. After a short history of years of lameness and suffering, and vain efforts to obtain a cure, the writer states;

'Happening about five weeks ago to hear of a case which bore a 'strong analogy to my own, though the subject was not a human 'creature, it suggested to me an experiment which I resolved to try 'immediately. A celebrated race-horse (Vandyk) belonging to a no-'bleman very well known at Newmarket, had been cured of a disor-'der, which had all the symptoms of rheumatism, by *sweating in body 'clothes*, after every other remedy had failed. I therefore clothed my-'self in a sufficient quantity of flannel, and set out to walk as far and 'as fast as I could. With the utmost difficulty I proceeded half a 'mile; and the pain I suffered contributed not a little to the effect of 'the exercise in promoting perspiration. I returned home in a pro-'fuse sweat, rubbed myself dry before a fire, and went to bed. In 'about an hour I got up, found myself very much fatigued, but in other 'respects not worse. Forty eight hours after this, I repeated the same 'kind of exercise, and found that I could walk a mile with as much 'ease, as I had walked half that distance on the first day. My gene-'ral sensations were the same as before; but, as the fatigue diminish-'ed, I thought I could perceive an amendment in my rheumatic pains. 'Two days afterwards I took my third walk, proceeding as before, and 'after it I had a better night, less interrupted by pain, than any I had 'enjoyed for eighteen months. From that moment I looked forward 'with confidence to a cure, and I have not been disappointed. Every 'succeeding walk has diminished my sufferings, and I may safely say,

'that after the sixth, I was as free from pain as I had ever been in my 'life. The only remnant I have left to remind me I was so lately a crip- 'ple, is a weakness in the left leg.' &c.

Some good physiological inferences are attached to this relation. The body-clothes are fully described, and the gentleman would have outdone the grave digger, in Hamlet, in the number of flannel waistcoats and drawers which he pulled off on returning from his walk.

The volume contains three other papers; one from Dr. A. P. Wilson Philip of Worcester, detailing a severe case of disease in the organs of respiration, with the dissection;—a brief chemical notice by Dr. Marcet, respecting the use of the nitrat of silver, in detecting minute portions of arsenic; and lastly, the "history of a case of remitting oph- "thalmia, and its successful treatment by opium," by Dr. Curry, of Guy's Hospital. This history is detailed with all the minuteness and point, which an acute medical observer might be expected to impress upon the relation of his own case. The principal circumstance illustrated by this case, is the important relief obtained by a full dose of opium, given *previous* to the exacerbation, in a most violent, painful, and alarming degree of ophthalmia, which was remittent, and recurred in daily paroxysms, after copious local depletion had been employed in vain. It was further proved, that the opiate, taken *after* the paroxysm had begun, aggravated its violence and lengthened its duration. This is perhaps a matter of general occurrence in intermitting diseases; the same anodynes and stimulants which will diminish or altogther prevent a paroxysm, if administered a short time previous to its occurrence, will both augment and protract the evil, if given during its existence.

III.

A treatise on some practical points, relating to the Diseases of the eye, by the late John Cunningham Saunders, demonstrator of Anatomy, at St. Thomas's Hospital, founder and surgeon of the London Infirmary, for curing diseases of the eye. To which is added, a short account of the author's life, and his method of curing the congenital cataract, by his friend and colleague, J. R. Farre, *M.D. London,* 1811.

The work before us contains many practical hints of great value ; no new discoveries indeed, but such light reflected on the inventions of others, as proves that Mr. Saunders thought for himself. It is divided into six chapters, the three first by Mr. S. and the others compiled from his notes, and enlarged by Dr. Farre. These we proceed to analyse.

The first chapter is on inflammation of the conjunctiva, or as it is commonly called purulent ophthalmia ; as it occurs in infants more especially. It is liable, when violent, to end in opacity, ulceration, and sloughing of the cornea.

' The inflammation commences by a slight redness on the inside of ' the eye-lids, particularly about the inner canthi ; they are soon cover- ' ed with a thin gluy matter, which quickly inspissating, fastens them ' together, and when they are forcibly opened a large gush of tears ' succeeds. The eye-lids tumefy very soon ; the viscid discharge in- ' creases in quantity and speedily assumes a purulent form, whilst the ' tumefaction of the palpebræ increases. The conjunctiva now loses ' its character, its vascularity becomes extreme, and the minute co- ' lourless vessels which nourish its own peculiar texture, are so enlarg- ' ed and turgid with arterial blood, that the large branches which run ' beneath it are totally obscured. The surface of the conjunctiva is ' of a beautiful scarlet, and resembles (to use an anatomical illustra- ' tion) a finely injected fœtal stomach. The swelling of the palpe- ' bræ is so great, that when the child cries, the orbicularis muscle pro- ' jects the morbid conjunctiva and consequently everts the eye-lids ; ' ejecting at the same time a considerable quantity of the puriform ' discharge. As the disease advances the cornea becomes more or less

‘ cloudy, and by the extent of this cloudiness the degree of approach-
‘ ing slough is marked : for the whole of the cornea, if the whole be-
‘ come cloudy, will ultimately slough, and the form of the eye be to-
‘ tally destroyed. p. 34.

On account of its tendency to the latter termination, Mr. S. considers it as “ nearly allied to erysipelatous inflam-“ mation.” His plan of treatment is the antiphlogistic, stimulating injections are of course condemned, and general and local bloodletting directed to be vigorously pursued ; in a child, leeches may be applied so as to produce the “ effect of general as well as local bleeding, which will “ be known by the child’s skin becoming pale.” The use of leeches, as near the eyes as possible, Mr. S. prefers to scarifying the conjunctiva, which he thinks injurious, and different from the practice in any local inflammation.—Here we cannot but dissent. We do not cut into any other inflamed part, because in no other are the vessels so much distended ; the arteries and veins of the conjunctiva in acute ophthalmia, may be considered varicose as well as inflamed. Indeed we may argue, that if as great a discharge of blood could be afforded from the vessels of any other inflamed part, we should not hesitate to divide them, as we certainly do not to drain them by leeches.

If sloughing occur, a moderately astringent injection is to be applied to the ulcerated surface. A succession of sloughs is often a very obstinate symptom, and is best encountered by the use of the bark ; the extract is particularly adapted for children. Lunar caustic in substance or solution appears to be the most efficacious application to the ulcer.

The upper eye-lid is so tumefied in many cases, that it is very difficult to open the eye, it *must*, however, be opened frequently, and our author very ingeniously overcame this difficulty by means of Pellier’s elevator. If the conjunctiva, be so much enlarged as to protrude between the eye-lids, it is to be cut off.

The second chapter is on inflammation of the iris.

‘ As soon as this delicate and irritable substance is attacked with in-
‘ flammation, the brilliancy of its colour fades, it becomes thickened
‘ and puckered, the inner margin is turned towards the crystalline lens,

'and the pupil is exceedingly contracted. The vascularity of the 'sclerotica is very great, whilst that of the conjunctiva remains much 'as usual, and it may be easily perceived that the plexus of vessels lies 'within the latter tunic. The inosculations of those minute vessels are 'very numerous, and form a species of zone in the junction of the scle-'rotica and transparent cornea. The vessels disappear at this part 'as they penetrate the sclerotica, in order to pass to the inflamed iris, 'and are not continued over the transparent cornea, as in a case of 'simple ophthalmia."—p. 21, 22.

Great irritation on exposure to light and shooting pains in the orbit, attend this formidable inflammation. It generally terminates in a deposition of lymph upon and behind the iris; in the latter situation, often in such quantity "as to extend through the pupil and to drop pendulous to "the bottom of the anterior chamber." This either obliterates the pupil, or contracts it to a very minute size, and causes adhesion of the iris to the capsule of the lens.

Leeches are to be applied, and the antiphlogistic plan rigorously pursued in the early stages. General bleeding, is also proper; but the author thinks that opening the temporal artery has no greater effect than venesection in the arm.—Had one of the veins of the head been chosen for this comparison, we might have yielded to Mr. S's experience, the argument drawn from the proximity of the vessel to the inflamed part. But for the very reason that arteriotomy is undervalued, we would give it the preference. Mr. S. thinks the anastomoses of the minute inflamed vessels will secure them a full supply of blood from many sources; but opening the temporal artery is cutting off one of these sources, and the anastomoses give us assurance, that it will be felt in the eye nearly as much as if the optic artery itself were opened.

The use of blisters behind the ears, or to the back of the neck, has not been hinted at by Mr. S. in either of these two chapters. We regard them as very efficacious in both purulent ophthalmia, and inflammation of the iris. When the cornea begins to grow opake, they are far superior to any application made directly to the eyes.

Surgeons fond of operating may restore the pupil by cutting a hole in the iris. We cannot omit this opportunity of

urging a caution against all operations on the iris. The effects just enumerated prove that what we attempt on this delicate part is attempted with great risk, no less than the loss of vision. It is only therefore where there is no pupil, or where there is a very large central opacity on the cornea, that making a new pupil by cutting the iris, or separating it from the ciliary ligament, should be attempted.

The singular power of the extract of belladonna in effecting a dilatation of the pupil, is taken advantage of by our author for preventing its closure. During the whole period that lymph is depositing, this substance is to be applied to the eye, or eye-lid three times a day; the radiated fibres of the iris contract, and the lymph is elongated and converted into mere threads and films; so that a passage for the rays of light is secured, even though it be not quite regular in its form.

The third chapter is "on the cure of the inversion of the "upper eye-lid, by excision of the tarsus." We were struck with the opinion, that the cartilaginous tarsus is provided only to serve as a firm support for the eye-lashes; and we think it will be found sufficiently correct.* The practical use Mr. S. makes of this opinion is, that the cartilage is not indispensable in the eye-lid, and may be cut out. The inversion of the lid, of itself, but more particularly by turning the cilia upon the eye, produces great irritation and pain; and is often so obstinate as to preclude the hope of a cure. In such a case, the following is the practice of Mr. Saunders.

'A piece of thin horn, or a plate of silver, having a curvature corresponding with that of the eye-lid, is to be introduced, and its concavity turned towards the globe, within the eye-lid, which is to be stretched upon it. An incision is to be made through the integuments and orbicularis palpebrarum immediately behind the roots of the cilia to the tarsus, and should extend from the punctum lachrymale to the external angle. The exterior surface of the tarsus is then to be dissected until the orbital margin is exposed, when the conjunctiva is to be cut through directly by the side of the tarsus, which must now be disengaged at each extremity—the only caution necessary being to leave the punctum lachrymale uninjured. p. 53.

* The cartilage of the tarsus serves also to thrust the loose skin under the orbital ridge when the eye is opened.—E.

Inversion of the lower eye-lid and cilia is not so common. It may however occur from the pressure of a tumour, or of the tumefied conjunctiva, upon the orbital edge of the tarsus, forcing that edge outwards and the other of course inwards. Adhesive plasters may be applied to the lid, so as to restore its proper position ; but if this fail, the operation may be performed.

The fourth chapter contains many interesting notes and cases relating to the terminations of ophthalmia. These it is impossible to abridge. If the author had lived to finish his work, they would doubtless have been included in the two first chapters. We quote the following as a specimen of the discrimating acumen of Mr. Saunders.

' The diagnosis between syphilitic and simple inflammation of the iris ' may be formed from the following appearances :—In the syphilitic, ' the iris is much more thickened and puckered, the texture appears ' more changed, the irritation on exposure to light is less, the pain is ' most intense at night, red vessels are seen in the substance of the ' iris—a circumstance not often observed in the early stage of simple ' inflammation of the iris, in which patients, from the severity of the ' pain, are sooner induced to apply for relief—the pupil is not so much ' contracted as in the simple inflammation; and although the general ' appearance of disease be greater, the pain is actually less, the blind- ' ness is often total :—to which, perhaps, may be added, that the lymph ' is deposited, as it were, in drops, and assumes a tubercular appear- ' ance. p. 64.

The argentum nitratum is of course conspicuous as an application to sloughing ulcers of the cornea, and seemed almost a specific in effecting an adhesion of the iris to the cornea, when it had protruded through the fissures of these sloughy sores. " The intention in the mode of treatment is " to arrest the sloughing process, and to excite the adhe- " sive, by which the protruding iris will be united to the " breach in the cornea, and its further prolapse will be pre- " vented." Would it not have been more reasonable to have first produced a retraction of the iris by the extract of belladonna, and then to have excited the adhesive process ?

The fifth chapter treats of fungus in the eye, which may be free from malignancy, or malignant. The former seems to arise from the organisation of lymph which has

been thrown out; it becomes vascular, and rapidly increases till it protrudes from the eye.

'This was the state of the eye: The sclerotica was unusually vascular, but not inflamed. The vessels, were large and serpentine.—The iris, retired from its situation, seemed to be twice as far from the cornea as is natural. The pupil was dilated, and the iris contained many distinct red vessels. The cornea, the aqueous, crystalline, and vitreous humours were at this time transparent. In the course of a few weeks the crystalline became opake; the iris, covered with lymph, and as red as if injected, advanced towards and touched the cornea; shortly, a blue excrescence was thrown out at the superior part of the eye; at that part of the sclerotica which unites with the ciliary ligament. It increased rapidly and became as large as the anterior portion of the globe. This tumour ulcerated, for a long time a thin watery fluid was discharged, then pus, and lymph which trailed out through the aperture. After some months this aperture closed, the eye-ball, much reduced in bulk, became tranquil, and even retained some vestiges of the cornea, the blue excrescence being totally extinct. During this progress there was nothing like acute inflammation, and the pain was very trivial. p. 118. 119.

Malignant fungi are various in appearance, and slower in their progress, and it does not appear that even excision was successful in any of Mr. S's. cases. The following case will exemplify this disease.

'At the age of nine months, the disease commenced in the left eye of Master E. L. which when I first saw him, although not inflamed, was vascular and a little enlarged. The iris, in particular, was full of red vessels, and the pupil was very large and fixed. The retina appeared like a concave silver plate, in the posterior part of the eye. This eye was blind, but he suffered little or no pain, and was, in other respects, in good health. At the age of fifteen months the right eye was attacked, and exhibited similar appearances. The left eye was now much changed: the crystalline lens had dropped from its situation, and lay in an opake state at the inferior part of the vitreous humour. About three months before his death, the left eye, which had been for some time very irritable, suddenly enlarged, and began to protrude beyond the eye-lids in the form of a red mass, which ultimately acquired the size of a large apple.—About a fortnight before his dissolution, he fell into a state of stupor, with occasional screaming. He soon became frequently convulsed, and died in one of these fits. p. 120. 121.

In one of the cases the appearance of the diseased retina was tawny.—We do not find any hint that these were cases of fungus hæmatodes, of late a most comprehensive

title. A less practical surgeon than Mr. Saunders, might not have been content with leaving the fungus without a name.

The sixth chapter will occupy the rest of our attention; it contains the account of the author's method of operating for congenital cataract. Some bookworm has discovered that this was practised by one Conradi in Germany, ten or fifteen years before, so that we can account for Mr. Saunders' modesty in speaking of it merely as adapted by him to the cases of congenital cataract.

'Until the author directed his attention to this interesting subject, 'no surgeon appears to have given it a distinct consideration, or to 'have viewed it in any other light than as an occasional variety of the 'disease, which was to be treated precisely by the same means as the 'cataract of the adult. The bolder operators who have essayed these 'means, have found them to be inapplicable to the condition of infan-'cy; and therefore the child thus affected, has been consigned to 'blindness for at least the first eight years of its existence, as a less 'evil than the hazard of an operation at so tender an age.

'The efforts of nature in disease are seldom stationary, and even 'when they fail to accomplish the cure, the correctness of the inten-'tion may be clearly discerned: thus in the congenital cataract, after 'the crystalline lens is converted into an opake substance, it is gra-'dually absorbed; and in proportion to the progress of absorption, 'the anterior lamella of the capsule retires upon the posterior until 'they form one membrane, which is white, opake, and very elastic.— 'This is the conversion of the lenticular into the capsular cataract: 'all that is capable of being absorbed nature herself removes, and she 'only fails to accomplish her purpose, because the capsule cannot be 'destroyed by this process. It will presently be shewn in what pro-'portion this result occurs, and as the process is commonly completed 'long before the eighth year, the surgeon, who is now called upon to 'fulfil his engagement, finds a substance which he will in vain endea-'vour either to extract or depress.

'Although the congenital cataract is a frequent disease, yet its 'cause is necessarily obscure, because it commences at that period of 'human existence which seems to preclude the observations of the pa-'thologist. It has been said, that as soon as the lens becomes opake, 'the absorption of it generally commences; but among the exceptions 'to this order of events, there is one sufficiently frequent and remark-'able to engage our notice. There is a form of the congenital cataract 'in which the centre of the lens is opake, and its circumference is per-'fectly transparent. In these cases the lens remains of its natural size, 'as long as its circumference preserves its transparency, which, if un-

'disturbed, it will do for many years; but as soon as the capsule and 'lens are penetrated, even with the finest instrument, the opacity pro- 'ceeds, and is soon completed, sometimes in the space of two days.— 'From this period the process of absorption commences, and the bulk 'of the lens is diminished with greater or less rapidity in proportion to 'the manner in which the wound has been inflicted. Inflammation is 'thus ascertained to be a cause of cataract. It remains to be observ- 'ed, whether the congenital cataract may not also be referred to a 'change of structure which is independent of inflammation, or to actual 'malformation." p. 131. 134.

'— the majority of these cases are capsular cataracts, and the only 'difficulty in the way of nature is the capsule. To effect a perma- 'nent aperture in the centre of this membrane, is the business of art, 'and applies to every case of congenital cataract which can occur."— 'p. 137.

'The excessive mobility of the eye, the unsteadiness of the little 'patient, the small field for the operation, and the flexibility of the 'opake capsule are the difficulties with which the surgeon has to con- 'tend. The author overcame them by fixing the eye-ball with Pel- 'lier's elevator, controlling the patient, dilating the pupil with the 'belladonna, and by using a diminutive needle, armed with a cutting 'edge from its shoulders to its point, and thin enough to penetrate 'with the most perfect facility.

'The extract of belladonna, diluted with water to the consistence 'of cream, is dropped into the eye, or to avoid irritation, the extract 'itself is smeared over the eye-lid and brow. In the space of half an 'hour, or rarely exceeding an hour, the pupil is fully dilated, and the 'application should then be washed from the appendages of the eye. 'The child must now be placed on a table parallel with a window, 'from which the eye, that is to be submitted to the operation, is 'farthest. Four assistants, and in stouter children five, are required 'to confine the patient. The first fixes the head with reversed hands, 'the second not only depresses the lower lid with his fore finger, but 'also receives the chin of the child between his thumb and fore fin- 'ger, as in a crutch. By this means the play of the head on the 'breast is prevented, a motion which the child incessantly attempts, 'and which will very much embarrass the surgeon. The third assis- 'tant confines the upper extremities and body; the fourth, the lower 'extremities. The surgeon, seated on a high chair behind the patient, 'and taking Pellier's elevator in his left hand, and the author's needle 'in his right, if he is about to operate on the right eye, or the speculum 'in his right hand, and the needle in his left, if the operation is to be 'performed on the left eye, proceeds in the following manner.

ANTERIOR OPERATION.

I.——ON A CAPSULE CONTAINING AN OPAKE LENS.

'The surgeon gently introduces the bow of the speculum under the 'upper eye-lid, his assistant at the same time depressing the lower, 'and at the moment he is about to pierce the cornea, he fixes the eye 'by resting the speculum with a moderate pressure on the eye-ball. 'The position of the operator enables him to do this with perfect safe-'ty, and by that consent which can only exist between the hands of 'the same person, he not only discontinues the pressure, by using the 'speculum merely as an elevator of the lid, as soon as his purpose is 'accomplished, but he with facility renews or regulates the pressure at 'any moment in which it may be required. He penetrates the cornea 'as near to its junction with the sclerotica as it will admit the flat sur-'face of the needle to pass, in a direction parallel and close to the iris, 'without injuring this membrane. When the point of the needle has 'arrived at the centre of the dilated pupil, he does not boldly plunge it 'through the capsule into the lens, and perform any depressing mo-'tion; it is a material object with him not to injure the vitreous hu-'mour or its capsule; neither does he lift the capsule of the lens on 'the point of the needle, and by forcibly drawing it forward into the 'anterior chamber, rend it through its whole extent. Such an opera-'tion would dislocate the lens, deliver it into the anterior chamber, or 'leave it projecting in the pupil, and stretching the iris; and, although 'its soft texture in the child should exempt him from any disorganizing 'inflammation, the most favourable result will be a permanently dilated 'iris, deforming the eye. He proceeds with a gentle lateral motion, 'working with the point and shoulders of the needle only on the sur-'face and centre of the capsule, in a circumference which does not ex-'ceed the natural size of the pupil. His object is *permanently* to des-'troy this central portion of the capsule: merely to pierce it would 'not answer his intention, because the adhesive process will speedily 'close the wound. Having acted upon the centre of the anterior la-'mella of the capsule to the extent which he wishes, he gently sinks 'the needle into the body of the lens, and moderately opens its tex-'ture. In doing this he may, if he pleases, incline the edge of the 'needle, by which motion the aqueous humour will escape, and the lens 'will approach his instrument; but at the same time his field for ope-'rating will be diminished by the contraction of the pupil. The 'needle and speculum are now to be withdrawn, the eye is to be 'lightly covered, and the patient put to bed.

'Inflammation is seldom excited by this operation on the child; but 'its first approach, marked by pain and unusual redness of the conjunc-'tiva, or serous effusion under it, must immediately be arrested by the

'application of leeches on the palpebræ, and, in stouter children, by 'bleeding from the arm, followed by purgatives and a very low diet.— 'Soon after the operation, the extract of belladonna should be applied 'over the eye-brow, to prevent, by a dilatation of the iris, the adhe- 'sion of the pupillary margin to the wounded capsule. Nature now 'performs her part of the cure, and the lens, loosened in its texture, 'and through the aperture in the capsule subjected to the action of the 'aqueous humour, is gradually dissolved and absorbed.

'A single operation sometimes suffices, and the cure is completed in 'the space of a few weeks; but if the process does not advance with 'sufficient rapidity, the operation may be repeated once or oftener, 'interposing at least a fortnight between each operation. If the adhe- 'sive process has counteracted his former operation on the capsule, 'he will take care now to effect the permanent aperture in its centre, 'and he may use greater liberty than at first, in opening the texture of 'the lens.

'Some have supposed that the fluid cataract is not only the most 'frequent, but the most manageable of the congenital cases. Both 'suppositions are erroneous. It is not only the least common, but 'the fluid, when extravasated, sometimes excites a hazardous inflam- 'mation. In these cases, after puncturing the anterior lamella of the 'capsule, and discharging its contents into the anterior chamber, it 'will be prudent to desist for the time, and to guard against inflam- 'mation: by this operation the case will be converted into a capsular 'cataract.

II.——ON AN OPAKE CAPSULE, ITS LENS HAVING BEEN NEARLY, OR QUITE ABSORBED.

'The surgeon may in this case use the needle with much more 'freedom than in the lenticular cataract; but in other respects he 'proceeds in the manner above described. If any portion of the lens 'remain as a small nucleus or scale in the centre of the capsule, his 'efforts will be exclusively directed to detach this portion, by which 'he will fulfil the intention of the operation, that of effecting a perma- 'nent aperture in the centre of the capsule. But although the lens 'be completely absorbed, and only a capsule of a dense reticulated 'texture be opposed to the needle he will still attempt to make a 'breach in its centre, for if it yields, at its circumference, the pupil 'will be more or less covered with it, and the operation will be im- 'perfect, because this thickened capsule is never absorbed, and the 'pendulous flap is incapable of presenting a sufficient resistence to the 'needle to admit of its being removed by a second operation. It 'sometimes happens that the texture of a capsule, on which the first 'or second operation has made no impression, will break up under the 'repeated touches of the instrument in a subsequent operation.—

'Having fulfilled his principal intention of securing an aperture in the 'centre, if the capsule yields readily to the instrument, the surgeon 'during the same operation may lacerate its circumference, to render 'the pupil clear in its utmost degree of dilatation, always remember-'ing that this liberty ought to be taken only in cases that are capsular. 'p. 132. ——

'In the adult, if the texture of the lens is nearly uniform and per-'meable, the cure is completed in a space of from three to five months; 'but if the texture is firmer and the nucleus large, the cure cannot be 'accomplished in less than seven months. p. 173.

That a new operation* has been invented, is evident, and that like all novelties it will be made a hobby, is very probable. The Editor of Mr. Saunders' work tells us that Mr. S. preferred extraction when the lens was unusually hard; and insinuates that he would not ultimately have conceded so much. This is doing injustice to the author. His operation will rank as another method of performing that of Hey and Scarpa, who depended chiefly on solution and absorption of the lens. When the capsule is opake the anterior operation may be preferable, but Hey and Scarpa, it will be recollected, managed this case by the posterior operation.

In the posterior operation the needle penetrates through the coats of the eye and vitreous humour. It is feared that depression is performed at the "expense of the retina and "vitreous humour." But considering the almost universal adoption of the method of couching, and the number of bunglers who must of course have performed it, we think the cases of bad success have not been numerous. We once saw, during this operation, the needle of the operator pushed to the opposite side of the eye, and no bad effects ensue; on the contrary the patient recovered his sight. The case was not very favourable in other respects, and we cannot but think, that if ill success were ever to be expected, it should have followed in this case. For such

* According to Mr. Wishart (see No. XII. of the Eclectic Repertory), Conradi practised this operation as early as 1797, and we have lately conversed with an intelligent person who saw it performed in Hamburgh in 1804 or 5. It is singular that it was not practised in England until 1807, which is the date of Mr. Saunders' first attempt.—See page 165.

reasons, the danger of the posterior operation appears to us overrated.

It is not to be argued, that Mr. Saunders has succeeded in fifty two cases out of sixty of congenital cataract. Let his operation become general, and it will be better tested. An inventor of a new instrument or operation, though he has only ordinary skill, is often successful merely through enthusiasm and assiduity. What might not then have been expected from Mr. Saunders, whose eminence was attained only through merit, and who perfected himself in the old methods before he attempted the new.—All of these he performed with success, and so may any skilful and steady surgeon, who has acquired the happy faculty of doing things exactly as they ought to be done.

To examine this subject fairly, we shall compare the dangers of the posterior and anterior operations. We take those of the former as stated by its adversary Dr. Farre; disorganisation of the vitreous humour, and loss of power in the retina. As to the former, it will be recollected that Mr. Hey operated 6, 7, and 12 times in one eye, each time deranging the vitreous humour, particularly when the capsule was torn from the iris, which required several turnings of the needle; and yet no more than ordinary inflammation followed, and the patient recovered. It will also be recollected, that every successful case of depression must have disorganized nearly one third of the vitreous humour, in making a passage for the lens. Moreover, it will be recollected, that the lens sometimes rises with the needle, and that depression is performed several times during the same operation (we have seen it done 4 or 5 times), and yet the case succeeds. These are facts which, independently of reasoning, refute the fear of disorganising the vitreous humour.

As to the retina being injured by couching, it is pierced in but one point, not concerned in vision, and will recover by adhesion. The retina does not possess ordinary sensibility, and therefore no addition to the adhesive inflammation is to be expected from pain.

General inflammation of the eye, and consequent inflam-

matory constitutional symptoms, have as yet been laid to the account of the posterior operation only ; and we must admit that they may be more readily excited in this, than in the anterior operation. They have, however, certainly been overrated ; and time and experience may shew that the anterior operation is not secure from them.

One danger of the anterior operation is inflammation of the cornea. This we are aware is not very great ; if however it should occur, and opacity be the consequence, the eye is irretrievably lost. This is one great difficulty in extraction ; and although in Mr. Saunders' operation the wound is trifling, and this difficulty of less force ; still we cannot but think it quite as formidable, as derangement of the vitreous humour and loss of the retina.

The iris causes the great difference. In the posterior operation, the needle and iris need not come in contact.— But if the aqueous humour escape before the anterior operation is completed, the needle must touch the iris ; and as Mr. S's instrument has sharp edges, there are few beside its inventor who could withdraw it safely. If its point or edge did not touch the iris, they might scratch the cornea now become flaccid, and lay the foundation of an opacity.— Mr. Hey remarks, "one principal thing to be kept in view "by the operator, is to do no harm."

But, we shall be told, Mr. Saunders experienced none of these sad consequences. We answer with our former remark, an expert surgeon has little to fear from any reasonable method of operating. Objections founded on difficulties in the operation have no force with him. But the test of an operation is its being applicable generally, not requiring the extra assiduity of an inventor, nor any peculiar sleight.

There is one circumstance which gives great advantage to the posterior operation. The cataract may be both couched and broken down. The advantage of two operations is combined ; if it remain depressed, sight is at once restored, if it rise, it will gradually be dissolved and absorbed. Some are afraid, that the dissolving powers of the vitreous humour are not sufficient for this purpose. We can

answer that they are. In a case operated upon two months since, the cataract was disorganized and depressed; it rose again and nearly obscured the retina, but is now scarcely larger than a pin's head, and the pupil nearly unobstructed.

Let Mr. Saunders' operation be properly applied, and it will be an improvement as well as a novelty. When the crystalline humour has been absorbed, and the capsule, also opake, has collapsed, as Mr. Saunders has described it in children; then the anterior operation will afford the best chance for dividing the capsule. The pupil being dilated by means of the extract of belladonna, this nice section may be regulated by the eye of the operator. As we have assigned the anterior operation to this case, so we would recommend extraction in old, very firm cataracts, and consider the posterior operation as the general one, calculated for all other cases.

The posterior operation, it must be remembered, is twofold. The cataract may be depressed to the lower part of the eye; or it may be broken in pieces in its place, and the aqueous humour admitted to it. The former of these is very mechanical; the latter is scientific, depending for success on the two processes of solution and absorption.—The former is calculated for hard cataracts, when extraction may not be thought adviseable. The latter is calculated for all cases in which the lens can be readily absorbed, and in which the capsule, if opake, is not flabby from having lost the support of the lens. And the two may be united as in the case alluded to, in which the needle penetrated to the aqueous humour; and the lens, being depressed, underwent a very ready absorption in the vitreous humour.

The only novelty in this operation, is passing the needle through the cornea instead of the sclerotica. Mr. Hey operated by breaking down the lens, he practised successive operations, he destroyed the capsule, he admitted the aqueous humour; but these he did behind the iris. Mr. Saunders has done the same, he has done them as effectually, and he has done them before the iris.

We consider the use of the extract of belladonna, as introduced into Britain by Mr. Saunders, or that of the ex-

tract of hyoscyamus, as recommended by Mr. Wishart, to be real improvements. The effect of either of these is dilatation of the pupil, even to a degree so great, that the iris becomes a mere ring. The extracts diluted, are to be smeared on the eye-brow and lid, or on the eye itself, and in the course of an hour the dilatation is effected. This continues sometimes for six hours, when it gradually goes off, and the pupil returns to its usual size.

The application of these extracts will improve our practice in several particulars. Small specks are often found on the cornea directly before the pupil. The use of belladonna or hyoscyamus will effect a dilatation of the pupil, so that will become larger than the opake speck, and the light find it a passage to the retina. They should not be applied oftener than once a day, lest they lose their effect on the eye, and particularly lest they destroy the power of the retina. Perhaps however, the danger of this is more theoretical than real; at page 210, is a case in which belladonna was applied "every morning," without any notice of bad effects; and Mr. Wishart used the hyoscyamus for "more than a twelve-month" with perfect safety.

Adhesion of the iris to the lens, may be discovered by these medicines; a point important to be known before operating for either extraction or depression. Also if an opacity be confined to the centre of the lens, which sometimes happens, the iris may be dilated beyond the opacity, and vision retained until the cataract is completed.

But we expect that the most important result of these new applications, will be a better elucidation of the nature of cataract. Two or three varieties have been known for some time, and Mr. Saunders' book presents us with new appearances, discovered after dilatation of the pupil. Further discoveries may perhaps inform us, what cases are best adapted to the several operations we already possess; or they may even suggest an additional operation, to some one who can find between the eye-lids, a spot not already devoted to the needle or the knife.

IV.

Hints for the Treatment of the principal Diseases of Infancy and Childhood; adapted to the Use of parents, By JAMES HAMILTON, *M. D. Professor of Midwifery in the University of Edinburgh. Edinburgh*, 1809.

Of the Management and Diseases of Children. Principles of Midwiferey, Book IV. By JOHN BURNS, *surgeon.*

From the London Medical Review.

We promised that some notice should be taken of Mr. Burns' remarks on the Diseases of Children, in connexion with the Hints by Dr. James Hamilton, Jun. and we shall now endeavour to make our readers acquainted with some of the most interesting parts of each production.

Hints concerning the diseases of infants and children proceeding from the Edinburgh professor of midwifery, might be expected to awaken more than common curiosity and interest in those who had often heard of his vast opportunities for observation, of the singularity and boldness of his practice, and of the brisk vivacity and confidence with which he urged all his peculiar opinions from the professorial chair. We have been gratified by the perusal of them, and although on some points we felt inclined to differ from him, the main fault that we find in the book is its brevity.

Cow Pox. Of this affection, which ought to be ranked among preventives rather than diseases, Mr. Burns gives a better description than is to be found in any other author. In conducting the inoculation, one of the subjects of the greatest importance is to ascertain whether or no the local influence has produced the proper constitutional effect; and it is extraordinary that Mr. Burns makes no mention of the practice employed for this purpose by his countryman Mr. Bryce of Edinburgh. By Dr. Hamilton it is thus noticed and strongly praised.

'Happily for mankind a true test has been found out, not by chance 'as the original discovery was made, but by rational induction from 'analogy. Mr. Bryce, surgeon here, recollecting that in the inocula- 'tion for small pox, experiments had been instituted by which it had 'been ascertained, that punctures made every day till the fever in- 'duced by the first operation began, advanced so quickly in their pro- 'gress from that period, as to be all in the same state of maturity within 'twenty-four hours from the occurrence of the fever, concluded that 'the same must happen in cow pox whenever the constitutional affec- 'tion takes place. This theory he put to the test of experience, and 'found it completely confirmed. The result of his varied and exten- 'sive operations on the subject has been, that when the second inocu- 'lation is performed at the end of the fifth and beginning of the sixth 'day, provided the first advance in the regular manner, the progress of 'both goes on equally from the seventh or eighth, the one being the 'miniature representation of the other if the constitutional affection 'have actually occurred; but if it have not, that the second puncture 'advances as the first should do, in which case a third is to be made at 'the end of the fifth day, or between thirty-six and forty-eight hours 'before the expected appearance of the areola of the first puncture, 'and so on till the two inoculations of the different periods correspond 'regularly in progress and decline. The value of this discovery can 'only be appreciated by those who can judge of the subject, but may 'be beneficial to all.

'That it has not been adopted in the city in which it was made is a 'most singular fact. On so interesting a subject no human precaution 'can be superfluous, and I do not scruple to declare that any person 'who should hesitate to adopt Mr. Bryce's test *on being required to do* '*so* would deserve the most severe reprobation.'

Diarrhœa. Of this disease, or to speak more accurately, of this class of diseases, Dr. Hamilton has given according to the plan of his work, a very brief account of the symptoms, and of the remedies which he is accustomed to employ. Mr. Burns has treated the subject far more elaborately.

In diarrhœa the appearance of the stool is various. Sometimes they are thinner than natural, from the admixture of a larger than common quantity of fluid poured out by the exhalents of the intestines; sometimes they are slimy, from a superabundant formation of the natural mucus of the bowels; sometimes they are green when first discharged; sometimes they are evacuated of yellow colour, but become green on exposure to the air; and sometimes

they are of a dark brown colour and very fœtid. Of some of these morbid appearances the explanation is not very easy. The green colour of stools has been attributed either to a superabundance of bile, or to the presence of an acid in the intestinal canal.

" When in children," says Mr Burns, " the digestive " faculty is somewhat impaired, fermentation goes on more " strongly, and the fæces contain more acid than usual, " which although the bile be not increased in quantity may " give them a green colour." " All acids," he adds in a note, " decompose bile and in general produce a green " precipitate." It seems to us that there is no very complete evidence that acid is ever the cause of the green colour of the stools. It is true Thenard found that muriatic acid mixed with bile produced a green precipitate, but it does not necessarily follow that other acids, particularly those produced by fermentation in the stomach and bowels, will produce the same effects. The acetic acid poured on healty fæces causes no change in their colour. Some fault either in the quantity or quality of the bile is most probably the universal cause of the green colour of stools. The remedies for these complaints are various.

' That form of diarrhœa which is attended by green stools, readily ' yields,' says Dr. Hamilton, ' to a brisk laxative, as a dose of calomel, ' or of rhubarb and magnesia, or of syrup of senna with a small proportion of rhubarb followed by small doses of magnesia and prepared chalk. ' The nurse's diet should be regulated, and the infant should be allowed no other food beside the milk than arrow root.'

Many of our eminent practitioners in England often find this form of diarrhœa more obstinate than Dr Hamilton seems to have done. Mr. Burns advises an ipecacuanha vomit, and afterwards small doses of calomel, or some gentle laxative, night and morning. Dr. Clarke, of Dublin, gives half a grain of calomel every or every other night, until the stools become natural, and finds that he generally succeeds before he has given more than four or five grains Our experience corresponds with that of Dr. Clarke. When the use of laxative medicines seems rath-

er to be reducing the strength than correcting the stools, Mr. Burns restrains the discharge by opiate clysters.

Dr. Darwin says that griping and green stools arise from a torpor of the digestive organs, and that the most certain means of exciting their action and removing the disease, is the application of a small blister about the size of a crown piece to the pit of the stomach. We have often used this remedy. Sometimes it cured where many internal medicines had failed ; occasionally it has given only temporary relief; but it has rarely been entirely inefficient. Blistering is one of the most potent means we possess of curing diarrhœa in almost all its forms.

A combination of rhubarb, soda, and ipecacuanha, in such doses as that the ipecacuanha shall not vomit, and the rhubarb shall purge briskly, is one of the most generally useful remedies in this disease. When we do not wish to purge, small doses of rhubarb, soda, and aromatic powder, or of rhubarb, chalk, and ipecacuanha, are eminently useful. When the irritability of the intestines seems to be great, the fluid stools being thrown out with force and quickness, and the strength appears to be sinking rapidly, if we wish speedily to stop the discharge, the opiate injection is of all others the most speedily and completely efficacious. In these cases the application of a blister is of very great use. The external application of opium by friction or plaister, is likewise often very useful. In cases where we are desirous of allaying the irritation of the canal without stopping the discharge, hyoscyamus might perhaps be advantageously employed.

Scarlatina. Is it an unjustifiable degree of self-sufficiency to say that we treat this disease much better now than formerly? We think it is not: and yet observation, although the best, is so imperfect a source of knowledge ; so various and so opposite are the opinions about the effects of the same remedies on the same disease ; and so often do the best observers discover reasons to alter opinions which formerly they thought unquestionable, that although we maintain the modern mode of treating the scar-

let fever to be preferable to that of our predecessors, we do so with hesitation and uncertainty. For this disease the remedies chiefly deserving consideration are emetics, purgatives, cold affusion and sponging, bark, wine, blisters, and gargles. About the value of some of these our eminent writers are far from being settled in their opinions.

Dr. Willan says, " Purgatives have nearly the same debilitating effect as bloodletting. They are indeed very seldom necessary ; for although a few patients may on the first day be affected with bilious vomiting and diarrhœa, the state of the bowels is more uniform than in other febrile complaints." Dr. Currie, of Liverpool, called bleeding and purging *a deadly practice.* Since the publication of Dr. Hamilton's treatise on purgative medicines, many of the old and almost all the young practitioners have resorted to purging as one of the most effectual means of assailing the disease, and if we may judge by our own experience have seldom had cause to repent. It is almost needless to say that Dr. J. Hamilton and Mr. Burns are strenuous advocates for that practice. " Laxatives," says Mr. Burns, " are still more useful (than emetics). In some epidemics the bowels are moved with greater difficulty than in others, and in those cases the laxative must be stronger. Even when there is a tendency to diarrhœa, if the stools be fœtid and unnatural in their appearance purgatives are equally necessary as in the opposite state." A person uninformed in the history of medical opinions, would with difficulty believe that two sensible and well informed men, living at the same time and in the same island, could talk in so different a strain about the same thing ; as for ourselves we have long left off wondering at such things as these. " On the steady use of purgatives," says Dr. J. Hamilton, " the prevention of glandular diseases and of dropsical affections chiefly depends." In the Philosophical Transactions for the year 1746—7, Dr. Wall says, " Nothing so immediately cures a sore throat ' of the malignant sort as bark does, and I was soon con- ' vinced by a multitude of instances that for the same rea-

'son it is truly a specific in the case before us." "Although 'the bark," says Dr. Willan, "may be in many cases very 'useful, it often disappoints our expectations, and where 'the symptoms are violent *seems wholly inefficacious.*" 'Dr. Withering says that "the inflammation (of the 'throat) is augmented by large and frequent doses of bark; 'it is astonishing to see how much the tumefaction is in-'creased, and how rapidly the whole lining of the fauces 'is converted into a stinking slough. It is true nevertheless 'that many patients recover who take the bark. The fact 'seems to be that in mild cases an improper mode of treat-'ment is not highly detrimental; it is only in the more 'dangerous state of the disease that we can do much harm. 'I am ready to confess that in two or three of the first bad 'cases I saw, misled by so many marks of putrescency, I 'gave the bark, but the consequences were not such as 'would justify a continuance of it."

With regard to wine, we believe that in scarlet fever practitioners now use it much less frequently, and in much smaller quantity than formerly. Many of our most judicious physicians condemn it altogether. What then shall we think of the practice of Dr. Binns, who attended the children attacked by scarlatina in a large school at Ackworth in Yorkshire, of which he was superintendent.

'It is impossible to specify with certainty,' says he, 'the quantity of 'wine taken by individual patients, but from the general consumption 'when a number of bad cases occurred together, it appeared that 'children about twelve years of age must have taken each a bottle of red 'port and a bottle of raisin wine in twenty-four hours, for several suc-'cessive days. I have employed this practice for many years with 'as much success as any of my brethren. Although the state of the 'pulse and other symptoms were in many cases such that a small pro-'portion of wine and bark were sufficient, yet in other instances the 'debility was such as to require even the addition of brandy to the red 'port. Sometimes brandy unmixed was given with comfort and advan-'tage to the patient.'

Dr. Peart, of Gainsborough, (1802) gives about *five grains of ammonia every two, three, or four hours.* "In 'the most alarming cases," he says, "*a scorching fever* 'and raging *delirium* rendered the patient's situation hor-

'ribly alarming, yet in all variations of the disease the vol-
'atile alkali was my specific, which I administered to two
'or three hundred patients successively and *successfully.*"

We know no remedy which in scarlatina we use with so much confidence and satisfaction as the cold affusion. Few modes of alleviating disease act so quickly and so distinctly, or in a way which makes the connection between the remedy and the relief so plain and unquestionable as this. If we consider the phenomena of a fever fit we shall see that the means which nature takes to relieve the disease are only imitated, improved on, and rendered more effectual in the practice of affusion; and this perhaps may recommend the practice to some. A paroxysm of fever begins with coldness, the coldness is succeeded by heat, and the heat by perspiration; as soon as the perspiration breaks out, it moistens the skin, cools the surface of the body, and alleviates all those distressing feelings which accompany the hot stage of a fever. Now the practice of affusion is only an imitation of this spontaneous and natural mode of relief. Perspiration is the natural affusion; affusion is the artificial perspiration*; only in this as in some other cases art has improved on nature. The only fault which we can find in this practice, is, that it is not applicable to a larger proportion of the cases of the disease; for when scarlatina is prevalent there occurs a number of cases, in which the preternatural heat of the surface is not sufficiently great or steady to warrant or even to require the employment of the affusion. In those cases which do indicate its use we have long been accustomed to rely upon it as the chief remedy, and we have never had the smallest reason to regret our reliance. In some the disease has been cut short by one or two affusions: in many it has been converted into a trifling ailment, when, if we might judge from the commencing symptoms, a severe disease would have been formed; in all it has alleviated the symptoms more rapidly and more unequivocally than any other

* The editors of the New-York Medical Magazine hold themselves responsible only for the *general* value of their selections, and not for the correctness of the *particular* opinions they may contain.

remedy which we ever saw employed, and in none has it been attended by the slightest appearance of harm ; not enough even to excite the hostile eloquence of the neighbouring gossips. Nevertheless, this harmless and potent remedy is at this day neglected in the metropolis ; and men of sense and knowledge are to be found who express their doubts about its utility. It is an old occasion of astonishment that men often differ *in toto* about the plainest facts ; facts which to ascertain, one would suppose require us only to open our eyes. That at this day one man of sense should say that purgatives in scarlatina are almost as debilitating as bleeding, and are unnecessary, and another, that they are indispensable remedies ; that some should believe washing the hot parched skin of a patient to be useful, and others to be hurtful : that——But it is vain to go on. The whole history of medicine furnishes materials for this astonishment among those who can still be made to wonder. The fact is that the greatest number of men act without sufficient motive, and speak without sufficient thought ; and these faults rise very high in the learned classes. When we look at a statement, we know not how much knowledge lies behind it; but the older we grow, and the greater opportunities we have of judging how much we may generally rely on the opinion of men, the less do we rely on them. We find that few of these opinions are formed with care and cautiousness. In this way, and in this only, can we explain the following opinion delivered by Dr. J. Hamilton.

'When the throat is affected at the beginning, an emetic, although 'it noes not cut short the progress, as has sometimes been alleged, 'certainly mitigates the violence of the disease. The same may 'be said of the *affusion of cold water* over the whole surface during the 'hot stage *which by some practitioners has been extolled beyond measure.* '*Its apparent efficacy may be explained on the principle that in much* 'more than the majority of cases, the disease is mild and would terminate '*favourably, whatever practice were adopted.*' (Page 375.)

Of the same remedy, the cold affusion, Mr. Burns speaks thus :

'From careful observation, I can with great confidence recommend 'it. It is of consequence to use this early, and whenever the patient 'feels steadily hot, the shiverings have gone off, and the skin feels ve-

'ry warm to the hand of another person, it is time to put the patient
'into an empty tub, and dash over him a large pail full of cold water.
'By this I have known the disease arrested at once, the eruption nev-
'er becoming vivid, and the strength and appetite in a few hours re-
'turning, even where it is not arrested it is pleasant to observe the
'change it produces. The patient from being dull, languid, and list-
'less, feels brisk and disposed to talk or laugh; the skin becomes for a
'time colder, and refreshing sleep is frequently procured.'

The remedies that still remain to be noticed are blisters, emetics, acids, and gargles. Blisters are applications of very doubtful utility. Dr. Withering and Mr. Burns condemn them. Dr. J. Hamilton says nothing about them. Mr. Burns is uncertain whether they ever do good, and says they often greatly increase the irritation of the patient. Medical men are almost unanimous about the utility of emetics at the beginning of scarlatina. Dr. Willan, Dr. Stanger, and others speak highly of muriatic acid, taken daily in the quantity of a drachm largely diluted. Stimulating gargles, such as diluted alcohol and infusions of cayenne pepper, are coming into fashion; and we are persuaded are often employed with too little attention to the nature and progress of inflammation, and to the state of the parts to which they are applied. When these parts are gangrenous, they may do good. In sloughing and mortification of other parts of the body, the most effectual application is a hot fomentation of largely diluted nitric acid. If the application is useful in mortification of other parts, why not in mortification of the throat? We have seen it of unquestionable service in this latter case.

Croup. We stop at this article principally to notice a mode of treating croup, which originated in America; but which has been adopted by Dr. J. Hamilton, and is we believe gaining friends in this island. The practice is thus described by Dr. H.

'Immediately upon the attack, the child must be put into a tub of
'water heated to the ninety-sixth degree of Fahrenheit's thermometer,
'(that is to the degree which the hand immersed in it can easily bear)
'or must be wrapped up in a blanket wrung out of hot water. Whe-
'ther the bath or the fomentation be employed, it ought to be contin-
'ued for at least ten minutes, and then the child should be rubbed dry,
'carefully wrapped up in warm flannel and put to bed.

'A dose of calomel is now to be given and repeated every hour till 'the breathing be evidently relieved, when it is to be gradually dis- 'continued, allowing at first two, then three, and finally four or five 'hours to intervene between each dose, according to the state of symp- 'toms. This medicine commonly occasions both vomiting and purging; 'and in true croup the first alleviation of symptoms generally follows 'the discharge of a great quantity of dark green coloured matter, like 'boiled spinage by stool; but if the attack have been that of spurious 'croup, the breathlessness ceases after vomiting has occurred.

'The dose of calomel is to be regulated principally by the age of the 'patient. During the first year it should be from one to two grains: 'during the second, two grains and a half; during the third and fourth 'years, from three to four grains; and during the fifth and sixth, from 'four to five grains.

'When the disease has begun to yield to this treatment, nourishment 'suited to the habits and circumstances of the child is to be exhibited 'in small quantities, and often repeated. In some cases considerable 'weakness remains after the crouping has ceased, in consequence part- 'ly of the violence of the symptoms, and partly of the operation of 'the calomel. Under such circumstances, cordials, particularly weak 'white wine whey, and a blister to the breast become necessary. But 'if proper attention have been paid to the precaution of lessening the 'number of doses of calomel, whenever the disease is in the least al- 'leviated, the ordinary health of the child will be restored within a 'very short time after the symptoms of croup have disappeared.

'For the cure of this formidable disease, practitioners formerly 'trusted chiefly to bleeding, with the use of vomits and blisters, as 'auxiliaries; but the result of the practice was in the more favourable 'cases a very considerable shock to the constitution, and in the ma- 'jority of instances, the death of the child. These circumstances 'rendered it fair to make a trial of the practice of giving calomel, first 'suggested by some American physicians. Accordingly an old pupil 'recommended it to me about eight or nine years ago, but I was at 'first unwilling to try it, as he said it produced in his practice no other 'sensible effect but that of curing the disease. After another year's 'experience, his report being still favourable, I agreed to make a cau- 'tious trial of it, and having now employed it for seven years, and 'having most carefully attended to its effects, I consider myself fully 'warranted in giving the above directions. I have had the happiness 'of seeing the disease yield where its violence seemed to threaten al- 'most immediate death; and among the patients on whom it has been 'successfully tried, one of five months old had thirty-two grains of the 'calomel within twenty-four hours, and another of the same age, eigh- 'ty-four grains within seventy-two hours. A girl seven years of age

'had within little more than sixty hours a hundred and thirty-three 'grains, and two days after, appeared as if she had never had a com- 'plaint. In every case where it was employed previous to the occur- 'rence of lividness of the lips and other mortal symptoms, amounting 'now to above forty, it has completely succeeded both in curing the 'disease and in preventing any shock to the child's constitution. In 'three instances, where the case seemed desperate, it was thought 'right to try its effects rather than leave the patient to his fate. It 'neither aggravated nor mitigated the symptoms.

'It is necessary to add, that I have now seen two cases where, al- 'though all the symptoms of the croup were removed by the use of 'calomel, the patient sunk from the weakness which followed. One 'was nine months, the other four years old. In another case to which 'I was called, where the debility was very great after the use of the 'calomel, the infant was saved by means of a blister, and a very liberal 'use of opiates and wine diluted with milk. These cases enforce the 'necessity of watching the progress of the disease, so as to stop the 'calomel whenever the symptoms begin to yield.'

Of the mode of treatment above detailed, Mr. Burns speaks favourably, although not so strongly as Dr. J. Hamilton.

'Calomel,' says he, "appears to be a very powerful remedy in this 'disease, and if given early will most frequently save the child. I do 'not however recommend it to the exclusion of other remedies with 'which it is not incompatible. Early bleeding followed by an emetic 'and calomel afford the greatest hope of removing the disease. But I 'think it my duty to state that in some cases no alleviation was ob- 'tained by any remedy but the calomel; and in others, it was trusted 'to alone, and with success. I have a high opinion, says he, in anoth- 'er place, of the efficacy of calomel; but I cannot speak so strongly 'as Dr. Hamilton, for even when it was early and exclusively employ- 'ed, and brought away green stools, I have known it fail.'

Ever solicitous to convey information to our readers, we should have pleasure in extending further the transcripts from these publications: but this is unnecessary; for we feel confident, that the extracts already inserted together with the remarks which we have offered, will induce every inquiring practitioner to peruse both.

V.

Memoirs of the Connecticut Academy of Arts and Sciences, Vol. 1. *Part.* 2. *New-Haven, Steele & Co.* 1811. *No.* XVIII. *A dissertation on Chronic debility of the Stomach, by* BENJAMIN WOLSEY DWIGHT.

When a physician is afflicted with any of the various ills which "flesh is heir to," the public have a good right to expect a better knowledge of the symptoms of his disease, or some improvement in the method of treating it.—Accordingly we find some of the best histories of gout in the writings of those medical men, who have been martyrs to it. We owe almost all our knowledge of Asthma to Sir John Floyer and Dr. Bree, both of whom were afflicted with it, and the latter of whom has effected his own cure. Dr. Monro, who suffered a rupture of the Tendo Achillis, devised the most effectual apparatus for its treatment, which was afterwards used by Mr. John Hunter, and the present Dr. Curry of Guy's Hospital, in their own cases. Dr. Rush had an hereditary predisposition to Phthisis, but kept it at bay by the use of means which his view of the disease suggested. Dr. Jones of this city has published one of the best accounts of the symptoms of Tic Douloureux, the inveteracy of which he has farther established by his own sufferings. And we have here another contribution to our art, from a personal experience of eleven years. It is somewhat singular that no physician has given a similar account of scrophula; whether this has arisen from an accidental exemption, or whether a constant personal vigilance may not have routed the disease, are very interesting questions. The sufferings of a scientific physician from this disease, would yield a more important harvest of information, than has ever yet been reaped.

Dr. Dwight has opened his dissertation with a very brief account of the process of digestion, such as is now generally received.

' —— the digestive process so far as it takes place in the stomach, ' is accomplished chiefly by the gastric liquor. Some aid is, however, ' rendered by the muscular action, and heat of the stomach; and the ' process is completed in the duodenum, by means of the solvent and ' saponaceous powers of the pancreatic liquor, and bile. p. 221.

Considerable mystery still hangs over the process of digestion. The solution of food in the stomach is indeed fully proved, but the source and nature of the solvents remain uncertain. Some consider the saliva as sufficient for the purpose, and on this theory ground the explanation of the dyspepsia which follows the loss of this fluid, by tobacco-chewing, salivation, &c. Others regard it as a peculiar secretion furnished by the internal coat of the stomach generally; while Mr. Home attributes it to a part only of this membrane, or rather to a certain glandular apparatus, near the cardiac orifice, which we have seen him demonstrate in some animals, and which he fancies he has discovered in man. And lastly, the bile has been supposed to have an effect within the stomach as well as beyond it.*— Between these theories, it is not our business to decide. The correctness of either, or of all of them, can alter in no degree the practice of our author. We have noticed them only to invite attention to the subject, and a further investigation of the important process of digestion.

Of the antiputrescent qualities of the gastric liquor, a remarkable example is given at p. 251.

' Some years ago, Æneas Monson, M. D. late President of the Medi- ' cal Society of Connecticut, obtained about a quart of gastric liquor, ' from the stomach of an ox. The animal, previous to its being killed,

* This opinion is not plausible at first sight; we quote however the following remarks concerning it from Dr. Rees' book on disorders of the stomach *passim*. " Bile in the stomach is a very powerful stimulus to hunger," " gluttonous men and rapacious animals have been found to have the ductus choledochus open into the stomach." " Duverney has demonstrated the biliary duct opening into the stomach of the ostrich." " Vesalius (says Boerhaave) opened the stomach of a most voracious robber, and found the biliary duct inserted into the stomach; and Galen assures us, that people who are subject to have the bile ascend into the stomach, are always extremely voracious." These facts though far from conclusive are very remarkable; and hey entitle the theory which is built upon them, to be tested by direct experiments.

'had been fasting an unusual length of time. Notwithstanding this 'advantage, the butcher who collected it, did not obtain it so pure and 'free from admixture with other substances, as was expected. In 'consequence of this fact it was put into a junk bottle, tightly corked, 'and placed by a servant in the cellar, on the top of the wall, by the 'window, with an intention of letting it stand a few days, to settle.— 'When it was called for, the servant was unable to find it. It re-'mained in this situation between one and two years, before it was 'discovered. On opening it, it was found to be perfectly sweet, and 'to smell very exactly like the breath of a healthy cow. This occur-'red during the hottest weather of the summer. The liquor was care-'fully poured off into another bottle, which was well corked, and set 'aside in a proper place, where it remained a year longer. It was 'then opened, and the liquor had apparently undergone no changes, 'but was perfectly sweet. p. 251.'

Dr. Dwight considers the permanent or chronic debility which he describes, as seated chiefly in the nerves, muscular fibres, and vessels of the stomach. This is comprehensive at least, and if we mistake not, these respective *sub-diseases* have been called Hypochondriasis (in which the liver also is affected), Dyspepsia, and Pyrosis. What reason our author has had for changing these names we cannot imagine; much less can we see any propriety in confounding the three diseases under one name. They are indeed often combined but they are in many respects different, both in symptoms, and in the means of relief or cure.

We will not, however, cavil at a name. The volume before us exhibits the most complete account of the "often infirmities" that we have seen; and although it contains little that is new, it contains nearly all that is valuable.— The essay is calculated to be popular, and if we did not know the perverseness of human appetite, we should hope that the many good remarks upon diet would be made practical. Man is the only gluttonous animal, the only one voracious from habit. Several birds and some beasts make very large meals, but they do this chiefly to improve an opportunity; they do not return to their prey till again hungry. But men keep up a perpetual appetite, they almost never wait for its proper source, hunger. If with this indulgence exercise were joined, the digestive

powers might remain vigorous. But without exercise this unnatural error gives rise to many distressing ailments.—We quote the following remarks concerning one of the most prominent symptoms, acidity in the stomach.

'It appears to be the general opinion of physicians, so far as my in-
'formation extends, that the acid found in the *Primæ Viæ*, is derived
'from a fermentation of the alimentary matter. That such an opinion
'should have universally prevailed, is not to be wondered at. It is
'not long since the medical world attributed the process of digestion
'chiefly or solely to this cause. That the acid, which is sometimes
'found in *healthy stomachs*, is produced in this way, I have no doubt;
'and that the acid found in debilitated stomachs is, in many instances,
'owing to the same cause, I also admit; especially where the disease
'consists of what may be termed a paroxysm, that is, an attack which
'lasts from one to four days, commencing suddenly, and leaving the
'stomach free from the evil, by means of a spontaneous diarrhœa, or
'some other cause. Such paroxysms I have often known. The dis-
'order in this case is brought on usually by eating acid fruits, or
'beans, or peas, or other vegetables, which are tough and old, or
'pastry, or by drinking wine or porter in a slight degree sour, or by
'eating to excess food generally healthful. The acid in this case evi-
'dently proceeds from fermentation, and the great quantity of gas or
'wind extricated, together with other circumstances unnecessary to
'be mentioned, prove it. But there is an acid state of the stomach
'differing widely from all this, often continuing many weeks, and
'months, and sometimes years, without material abatement, and this
'in spite of all regulations of diet; often lessening the appetite greatly
'during its continuance, producing obstinate costiveness, and exces-
'sive torpor of the stomach and intestines, without ordinarily occa-
'sioning wind in those viscera, at least to a greater degree than is
'usual to those who enjoy sound digestion; producing also headache
'of many months continuance, or daily periodical headache and uni-
'versal debility, and sometimes, perhaps usually, connected with an
'acid state of the saliva. This also admits of aggravations or parox-
'ysms, induced by various causes. The acidity in such cases I sup-
'pose to be owing to a *morbid secretion of the gastric liquor*.'

'—— the stomach becomes exceedingly torpid, and requires a very
'large dose of some powerful emetic to excite vomiting, and when it
'is induced, nothing is brought up but *an acid mucus*, unless, by vio-
'lent straining, bile should be forced from the duodenum into the
'stomach. The acid is often extremely corrosive, so as in some
'instances, to excoriate the fauces. The vomiting however is of no
'service. It greatly weakens the stomach for a time, and in twenty-
'four hours the acid is as abundant as ever p. 242. 243.'

For the cure of chronic debility of the stomach, Dr. Dwight relies chiefly upon exercise, considering it as "the natural state of man." Riding on horseback is of course the best exercise, but as this is not within the means of all, the following are mentioned.

'In cool weather, cutting, sawing and splitting wood, will be found 'very useful. For young men at colleges or in merchants' counting-'rooms, playing at ball, foot-ball, quoits, nine-pins, &c. p. 301.'

The exercises enumerated in the first sentence are accessible to all, and although they may appear menial, and are not connected with any amusement, they possess some great advantages. Their effect is most felt in the chest and abdomen, and they may therefore be very properly alternated with walking. These exercises are of course the best substitutes for riding on horseback.

With the following theory of the effects of exercise, we shall finish our quotations.

'*In what way is exercise useful in such cases*, it may be asked? I 'answer by strengthening the whole muscular system, and by improv-'ing all the secretions, but especially the gastric liquor and the bile; 'while it also diverts the mind from a dangerous attention to the 'disease of which it partakes, and frequently furnishes an agreeable 'novelty and variety. That exercise strengthens the muscles, may 'be easily evinced. Every one knows that it increases greatly the 'circulation of the blood, and in this way an additional quantity of nu-'triment is added to the solids; it also sharpens the appetite, and 'renders the digestion more vigorous. Of course a larger quantity of 'nutriment is derived from a given quantity of food. The same truth 'is evident, from facts, obvious to every observer. Thus certain me-'chanical employments, which call into frequent or constant daily ac-'tion, particular muscles, occasion in them considerable enlargement, 'and an increase of strength. The whole muscular system of a labour-'ing man, other things being equal, is vastly stronger, than of a man 'confined to light and easy employments. That exercise improves 'the secretions, any one may be satisfied by attending to its effects 'upon himself. The secretion from the axillary glands it is well 'known, is greatly increased in quantity, and rendered far more odor-'ous, by hard labour, or by any kind of exercise that moves the arm to 'an unusual degree, such as riding on horseback, cutting wood, &c.— 'The sweat and ear wax of labouring people, is altered in like manner, 'and likewise, the milk of the female. The bile also is greatly im-'proved in its quality, and often increased in its quantity, by the same 'cause. May we not reasonably infer the same of the gastric liquor? 'p. 296. 297.'

The stomach is supported in a bed of soft parts, and its connexion with the spine is very loose, so that exercise must be severe to be felt by this organ,—to produce in its muscular coat the great strength it does in the external muscles. On this account many are disappointed of a cure: a moderate degree of exercise is thought sufficient, but this failing, they have not resolution to use that which is more violent. When a dyspeptic rides, (if not generally debilitated), he should trot his horse, and when he works, he should work hard, that the abdominal muscles may by their action exercise the stomach. These directions will not of course be popular with the indolent, they are however entirely consonant with reason. The exercise which renders a smith's arm muscular, which swells the gastrocnemii of a porter, or which adds intensity to the odour from the feet or the arm pits, are they not all of the most violent kind and long continued? As severe exercise is not necessary for a healthy stomach, so none other will be useful in dyspepsia. But in a coach-ride or a canter the stomach undergoes a mere gestation: no local excitement of the vessels is induced, nor are the nutrition or secretion of the organ increased.

The new name which Dr. D. has given these complaints must have prevented him from using the white oxide of bismuth. Had the name of pyrosis been recollected, it could not but have brought with it that of bismuth. Dr. Moore's dissertation was published before Dr. D's book, and it has been several times noticed in periodical works, so that every American practitioner must have become familiar with this excellent remedy. Should this essay pass to a second edition, Dr. D. will be inexcusable if this medicine remain unnoticed. Exercise, though useful in every form of chronic debility of the stomach, and most so in dyspepsia and hypochondriasis, ought not to exclude the oxide of bismuth, which seems to be the proper tonic for the stomach: in pyrosis, a speedy and nearly certain remedy will be found in this oxide, and exercise will assist in establishing the cure.

We have not seen any work, in which the influence of

the mind in the production and cure of dyspepsia, was set in a proper light; nor does it comport with our plan to enter largely upon the subject at present. We offer the following hints, as our "mite" of contribution towards a better understanding of this matter.

Students are frequently subject to dyspepsia. This is chiefly owing to want of bodily exercise, it is owing in part to *errors* in the exercise of the mind, at least it is so in students of divinity, law, mathematics, &c. The error here is exercising the mind too severely, and exercising the judgment without the imagination The indication of cure is two fold, to exercise the body more, and to alternate exercise of the imagination with that of the judgment.—Study is not to be abandoned altogether; as well might a drunkard suddenly relinquish the use of strong liquor. For the same reason a total change of studies is improper; with the more severe, let some study be alternated in which the imagination may be exercised, such as animal and vegetable physiology, chemistry, and perhaps poetry.

Another class very liable to dyspepsia, hypochondriasis, and indeed to nervous complaints generally, are manufacturers. In these the body and mind both want exercise. Not that the mind is ever idle; but because its vagrant and untutored operations do not contribute to its health, any more than the lazy strollings of a sluggard can add to his strength. Mechanical dexterity is soon acquired, and the mind being no longer occupied by work, is given up to this pernicious listlessness, and to "a dangerous attention to any disease of which it may partake." To provide materials for the mind, we would advise that half an hour be snatched from the meal times, to read books of voyages and travels; they should be so read that only one or two incidents may be retained for reflection when at work. History may follow, to be read in the same manner. If the time during the day be too fully occupied, an hour stolen from sleep, and devoted to these purposes, will repay in health, what it exacts in self denial.

VI.

An Act to incorporate Medical Societies, for the purpose of regulating the practice of Physic and Surgery in this State, passed April 10, 1813.

The institution of state and county medical societies in 1806, has effected a change in the profession far greater than was anticipated. The examinations for a license are full and complete ;—not such indeed as should be required for a degree, being calculated to test the practical knowledge of the candidate, rather than his adroitness in theorizing, or his acqnaintance with books. This is as it should be ; for a large proportion of the practitioners of all countries are men of mere practical acquirements, whether they be termed apothecaries, as they are abroad, or physicians as in this state.

But while we acknowledge the wisdom of our State Legislature in thus securing the profession from uneducated intruders, we cannot but remark a strange inconsistency in the new law, which throws down half the barriers which had been erected, and gives a legislative sanction to the quackery of indian doctors, and poison-curing negroes. We allude to the 20th section ;

‘ *And be it further enacted*, That any person who shall practice physic or surgery, without being regularly licensed, shall forfeit and pay ‘ twenty-five dollars for each offence, of which he may be duly convicted, to be recovered with costs of suit, before any Justice of the Peace ‘ of the county were such penalty shall be incurred, by any person who ‘ will prosecute for the same ; and the Justice, before whom such conviction may be had, shall pay the same to the overseers of the poor ‘ of such town where such conviction shall be had, for the use of the ‘ poor thereof, whose duty it shall be to prosecute for the same : ‘ *Provided*, The person so practising without licence, who shall not ‘ receive any fee or reward for the same, shall be exempt from the penalty of this act : *And provided also*, That nothing in this act contained, shall be construed to extend to debar any person from using

'or applying for the benefit of any sick person, any roots, barks, or 'herbs, the growth or produce of the United States.'

This section is every way defective The paltry sum of twenty five dollars is not worth the trouble of conducting a prosecution. Besides, there are many indirect ways of receiving "fees or reward," which may not be illegal, and which of course secure the receiver from penalty.

But chiefly we would censure the general permission to prescribe drugs which are the growth or produce of the United States. Stramonium and hyoscyamus are among our indigenous narcotics,—valuable remedies in the hands of the skilful, but deadly poisons if unduly administered. There are several emetic and cathartic plants growing in almost every district of our country, and one or two tolerable substitutes for the Peruvian bark. Add to these; the sudorific, carminative, vermifuge, and tonic herbs, which grow on every farm, and we have an indigenous materia medica extensive enough for any bungler. Any one who finds the ingenious arts of counterfeiting and swindling too dangerous, or requiring too great activity of mind, may deal out death with the most perfect relaxation of his faculties, and under the seven-fold shield of the law.

The two following instances will show that we do not tremble at imaginary dangers.

A man in this city had a rheumatic pain in one of his joints (the wrist if we recollect rightly), and applied to a *black doctor* for relief. This savage ordered his patient to bed, and covered him with eight or ten blankets, under which he desired him to keep his head; he then had a large fire made in the room, and directed the doors and windows to be kept shut. In an hour or two (absente doctore), one of the family came to make inquiries of the progress of the cure, but on raising the blankets found the man black in the face, and gasping for breath. Respectable medical advice was immediately sent for, and four *regular* physicians attended; but their endeavours were to no purpose, as the man died the same night.

This example shows to what extent the prohibition to practise without license should reach.—Dr. *Blaekee* did

not administer " roots, barks, or herbs ;" but he prescribed his blankets as a physician. In that character he gained the confidence of the sick man. Had he, without such a disguise, ordered his patient to smother himself, the continuance of the rheumatism would doubtless have been preferred as the lesser evil. But the confidence of an uneducated person in a physician is so tinctured with superstition, that the hazard of an experiment is made of no account.—The most severe penalties should be inflicted on all who prescribe without license in the character of physicians ; and this whether their prescription be roots or herbs, blankets or bathing, diet or regimen. If such a law could not reach meddling old women, and officious friends, it would at least check the ravages of negro doctors and persons " skilled in the indian physic."

But to our second case.—A negro girl had amenorrhea, and was prescribed for by a regular physician, but without such immediate relief as was expected. It soon became evident that her imagination was as obstinately affected as her bodily health ; and she hinted that she thought herself poisoned.—We presume our readers are aware that this poisoning is a disease purely mental, that none but a black is subject to it, and that none but a black can either inflict or cure it. We suspect that it is not unlike the " obi" of the West India negroes.

In the confidence that she was poisoned, the girls parents introduced a negro doctor, in place of the physician employed by her master. This sable conjuror, it was expected, would have commenced the disenchantment with some mysterious rites, or the utterance of a powerful spell. He was however above such artifice. He made a very open display of his motives by demanding the truly professional fee of five dollars. This was ordered to be in hard money, and as it was with mystical accuracy given first to the poor girl, from whose hands he received it, the suspicions of the father were lost in his anxiety and superstition. The money received, the man bruised a few roots, directed a decoction of them to be made, and administered that evening. On the next morning the girl was better,

she had vomited violently during the night. It seemed now a question, whether ignorant temerity might not sometimes be preferable to scientific prudence ; and had this impostor been discerning enough to have been content with his *good luck*, he might have triumphantly decided the question. He chose however to follow up his victory with so much impetuosity, that on the fourth day of his attendance his patient was a corpse.

The first of these cases is well known to most of the profession in this city, and has been attested in one of the courts of justice. The evidence for the second is the personal knowledge of one of the editors.

We do not cite the above cases on account of their singularity, we believe that these impositions are in constant practice. The public are not on their guard against these swindlers of health, and superstition is so deeply rooted that we fear they never will be ;—the cup must be *forced* from their lips. Legislators are willing enough to lay restraints on popular feelings, but they foster popular superstitions of the most pernicious tendency. The truth is, these superstitions reach even to rulers and lawgivers, and all attempts on the part of our profession to reason against them, are accounted interested projects. But as their stations and pursuits qualify them for detecting political quackery, so our studies make us the best judges of medical imposture.

It is fancied that new remedies may be discovered by leaving this vegetable practice open to all. Admitting that there may, how many lives will the experiment cost? Possibly as many as will be saved by the discovery in store. But it is ridiculous to expect any contribution of importance from the researches of such impostors. If they stumble on some new emetic or cathartic, they make it a mysterious secret ; regular practitioners have no opportunity of testing it, and medical science is in no degree advanced.—Our country practitioners are to be looked to as the searchers after new articles for our indigenous materia medica ; to them we already owe the discovery of most of the medi-

cinal " roots, barks, and herbs which are the growth or produce of the United States."

But new remedies are less wanted than a regular and fresh supply of those already in use. The digitalis of the shops, is (we are informed) imported from Germany and England; of course the present supply cannot be much better than saw-dust. Opium is again advancing to an extravagant price, in consequence of mercantile speculations.—Were our country physicians encouraged to cultivate these and other vegetable medicines which bear our climate, infinitely greater benefit would be rendered the community, than can possibly result from giving sanction to the impostures of indian and obi doctors.

VII.

Memoires de Chirurgie Militaire, et Campagnes de D. J. LARREY, *Premier Chirurgien de la Garde et de l'Hôpital de la Garde de S. M I. et R., Baron de l'Empire, Inspecteur Général du service de Santé des Armes, &c. &c. &c.* 3 *Tom.* 8*vo. Paris* 1812.

From the Edinburgh Medical and Surgical Journal.

No one can have read the surgical history of the French expedition to Egypt by Larrey, without wishing for a continuation of that important and curious knowledge which military campaigns afford. In following the armies of Bonaparte, this accomplished surgeon-general has displayed a zeal and activity which cannot be surpassed; and he has collected a mass of experience relative to different objects of military surgery, which an individual, by his own exertions, has never before been able to achieve.

These volumes contain an historical account of all the campaigns which the author has served, from the beginning of his career in 1787, to the close of the Austrian campaign at the battle of Wagram in 1809, and his " Relation " chirurgicale de l'Armée de l'Orient," reprinted with-

out any material alteration or addition. The first volume opens with his voyage to North America, in the capacity of Surgeon on board a frigate, during which he encountered many dangers, and escaped many complicated evils, without observing any thing very new or important in he way of his profession. On his return to Paris in 1789, and previous to his first campaign in Germany, many memorable events occurred, which furnished abundant opportunities for seeing wounds of all kinds, and watching their treatment by Dessault at the Hotel Dieu. It was at the taking of Spire with an army of 40,000 men, under General Custine, that Larrey first discovered the very great defects of the hospital staff in the French army, and the imperfect manner in which its duties were performed. Military regulations had determined the fixed station of the hospital-staff, in consequence of which the wounded were left on the field of battle until fighting ceased. They were then assembled in some convenient place, and the medical officers brought up as quickly as possible ; but the delay was unavoidably so great, that twenty-four, sometimes thirty-six hours, and more, elapsed before they could be attended to ;—consequently many men perished for want of assistance. Carriages, or waggons, constructed on springs, for the purpose of receiving the wounded, were proposed by Larrey, and a corps of men and horses appointed to attend them, furnished with proper instruments, dressings, and medicines ;—a sort of moveable infirmary, always to attend the advanced guard, and to follow the squadrons like flying artillery. This invention had a powerful effect upon the minds of the soldiers, who were thus assured of being dressed immediately after being wounded, and carried off the field. In every subsequent campaign these *ambulances volantes* were constantly employed, and they appear to be well suited for their purpose.

The capture of Mayence afforded our author an opportunity of prosecuting his anatomical studies under Soemmering ; and we are continually reminded of his indefatigable zeal for his own improvement, and for that of the young surgeons in the army, by frequent notices of a clini-

cal school being established by him at every place where an hospital was to be found, and where he was stationed, though only for a short time. In all the principal towns in Italy, in Egypt, in Prussia, Poland, Spain, and Austria, Larrey never failed to devote some time in every week to clinical lectures and anatomical demonstrations, which must have been instructive to the hospital mates, and very advantageous to the whole medical staff. He was called away from the army of the Rhine to Paris, to arrange the hospital-staff for all the armies. In the mean time he married, but was soon obliged to leave his wife at Toulouse, being ordered to join a division of the army destined to Corsica.

At Toulon he presented himself to the commanding officers, among whom was General Bonaparte, commander of the flying artillery. This expedition to Corsica was stopped by the British cruisers, and the troops and surgeon general had sufficient occupation in Italy. It was during his residence on the Italian coast, that Larrey opened the bodies of persons who had been drowned, and he says, he found that the cause of death in these cases is the introduction of water into the bronchiæ ; the lungs he found always heavier and less crackling than in their natural state, and filled with a reddish coloured fluid. He saw very little water in the stomach, but evident marks of the want of proper changes in the blood. Although we allow these facts, we are surprised at the author's conclusion ; because it is now admitted, that the water discovered in the lungs passed in after death, since animals taken immediately from the water after submersion, are not found to have received any. The immediate cause of death from drowning has not been completely ascertained. Many probably concur,—but we think experiments have proved the fallacy of that opinion which attributed the suspension of vital action to the accumulation of water in the lungs.

A singular disease appeared among the regiments who returned to France from the Maritime Alps, in the spring of 1794. It was mistaken by some for a syphilitic, by others for a scorbutic complaint. It is an affection of the

mucous membrane of the mouth; the gums become excoriated; aphthæ cover the inside of the mouth, which put on a whitish and chancrous appearance, accompanied by diarrhœa and excessive weakness. Melted snow, which is said, when drunk, not to allay, but to increase thirst, was supposed to be the cause of this disease. Mercury aggravated the symptoms. Acids, generous diet, rest, good air, and warm lodging, cured them. A similar complaint attacked the grand army at Osterode, in Prussian Poland, after the battle of Eylau.

In the campaign of Italy, many instances occurred of the breaking out of contagious fever in barracks, and towns, and on board ships, which could always be traced to filth, want of ventilation, and marshy ground, and the progress was always stopped by attending to these causes.

The springing of some batteries furnished an opportunity for our author to record his method of treating burns. He employs mild ointments and soothing applications first, and then makes use of stimulating ointments. He protests against the early application of discutients, such as cold water, preparations of lead, lime, opium, &c. and adduces the unfavourable termination of cases so treated, after the dreadful fire at the Austrian ambassador's fete at Paris, in 1810.

We can afford no room to make extracts from the account of the campaign in Egypt; In 1805 Larrey was ordered from Paris to Boulogne, where the army was embarked, and the Emperor was present in command, waiting for the arrival of the combined fleets of France and Spain, which were to attack our ships in the Channel, and assist in the invasion of England; but in the midst of these immense preparations, a new continental coalition was formed, and France was threatened by the armies and high political tone of Austria. At this critical juncture, Nelson vanquished the combined fleets in the battle of Trafalgar, and the face of every thing was changed by the result of that achievement. A new plan of operations was instantly decided on; the troops were disembarked from the flotilla; and they traversed France, crossed the Rhine, and entered Germany with so much rapidity,

that the Austrians were attacked before they were fully assured of the French army having begun to march. The capture of Ulm, and of the whole of Mack's army, is entertainingly described, and the contrast between the conquerors and the conquered is patriotically drawn. There was continual rain and snow during their route to Vienna, and the soldiers were unable to dry their clothes, so rapid were these forced-marches. They were also unprovided with the necessary defence against the vicissitudes of the weather, from their baggage not being able to keep pace with their movements, and the soldiers were only served with a regular supply of provisions in the large towns. In spite of all these hardships, there were scarcely any sick. The constitution of the men seemed to become more robust, their minds were so elated by victory; and hence we may account for the success of the Greeks and Romans in their expeditions where the obstacles appeared insurmountable. A soldier accustomed to the duties of the army, endowed with a true military spirit, and arrived at the age of manhood, will not become sick, whatever fatigue he may undergo in an inclement season, provided he is not compelled to remain too long without food. We are inclined to think this observation will be confirmed by the experience of all military surgeons. The irregular supply of food, and the unfinished growth, the imperfect developement of the physical powers of the body in many of the soldiers who enter the army before they have reached the period of manhood, appear to us to be two of the great sources of a long sick list in a campaign.

After the battle of Austerlitz, the wounded of both French and Russian armies were assembled in great numbers at Brunn. In consequence of so many men being crowded together, a malignant typhus fever broke out, which committed extensive havoc. The hospital gangrene also occurred, which spread rapidly, and, in less than a month, the hospitals appropriated for regiments of the line lost one fourth of their wounded patients; but the guards were fortunately saved from this contagious malady, by being sit-

uated at a distance from the other sick and wounded, in an airy hospital, in another part of the town.

The remedies employed were, cupping upon the nape of the neck and the hypochondriac regions; sinapisms applied to the soles of the feet: stimulants and antiseptics to the wounds; acid drinks, and cordial draughts, composed of æther, camphor, and musk. General bleeding, recommended and practised by some physicians in this disease, constantly proved fatal. Dr. Roussel fell a victim to this remedy, which he insisted upon being employed in his own person, when he was attacked with a fever which he caught in the hospitals. In the advanced period of the disease, strong mineral acids were administered, and the body washed all over with cold camphorated vinegar, and even with ice, when the animal temperature was very high. Opium and bark proved injurious in the beginning of the disease; they were afterwards employed with good effects. Wine and coffee are not to be neglected, if those articles can be procured. Blisters, Larrey says, have not afforded the benefits which have been attributed to them in typhus-fever, *(le fiévre adynamique)*: the excoriations produced by them, he has observed, soon assume the character of sphacelus, or hospital-gangrene; the gangrene increases, and the general weakness remains the same. In cases where *l'ataxie* prevails, blisters are of great service. This contagious fever attacked the Russian prisoners, who were obliged to be lodged in the churches and other large buildings, and it spread among the inhabitants of the towns, through which these prisoners passed in great numbers on their way to France, along with the sick and wounded of both nations.

During the short stay which Larrey could make at Paris after his return from the campaign of Austerlitz, he collected his notes of the different circumstances he had observed in the dissection of persons who died from internal aneurism, and made them the subject of a memoir, which he communicated to the medical society. His observations agree with those of Scarpa, Sabatier, and Corvisart, and

he seems perfectly satisfied in assigning, as the cause of aneurism, some disease of the external coat of the artery, which he ascribes to some *virus*, either syphilitic or scrofulous, in the constitution. Aneurism is rarely seen among soldiers; it seldom arises from wounds or blows; it is more common, as Bichât remarks, among stage-players, who live intemperately. Some cases are related, in which the exhibition of mercury is said to have been followed by a diminution of the dilatation of the artery; but it must be recollected how strongly the author's mind is prepossessed with the notion of venereal virus being the principal cause of the disease of the inner coat of the arteries, and especially of the heart.

After the dissertation on aneurism, Larrey, in a sensible memoir on the spontaneous causes of active arterial hæmorrhage, describes the changes which ligatures induce upon the natural powers of the artery, in suppressing the bleeding from its divided coats. His practice and experience have led him to precisely the same conclusions, as those Dr. Jones drew from his able experimental inquiry. The orifice of the vessel is not stopped, he says, by the formation of a clot of blood, but by the contraction and adhesion of the coats of the artery. The following passage is so curious and important, that it deserves to be recorded in the author's own words:

'L'inflammation *adhésive* des parois d'une artère ouverte se fait 'comme nous l'avons dit, d'autant plus promptement que le vaisseau 'est plus irritable, que le sujet est jeune, et qu'il y a chez lui une plus 'grande energie vitale. Aussi nous voyons rarement survenir des hé-'morragies dans les opérations que nous pratiquons pour les maladies 'aiguës, telles que les blessures qui resultent des combats. Cepen-'dent il arrive souvent que les ligatures sont déplacées ou mêmes ar-'rachées peu de temps après l'operation par les secousses ou les tiraille-'lemens que les blessés opérés eprouvent pendant leur transport des 'ambulances aux hôpitaux de première ligne. Ce court espace de 'temps (12 ou 24 heures) suffit pour établir l'inflammation adhésive.— 'Convaincu de cette vérité, je ne fais jamais qu'un seul nœud au cor-'donnet de fil que j'emploie pour la ligature, même des plus gros vais-'seaux. Le deuxième nœud est inutile, et s'oppose souvent à la chute 'du cordonnet qui peut-être engagé dans la cicatrice, comme j'ai eu

‘ occasion de le remarquer plusieurs fois, et il est alors très difficile de
‘ l'extraire. J'ai été obligé dans quelques circonstances, d'aller pro-
‘ fondement couper sur l'artère, avec des ciseaux, l'anse du fil. Il
‘ n'en est pas de même pour les operations que l'on pratique à la suite
‘ des maladies chroniques. Les malades sont epuisés, les forces vitales
‘ se trouvent affaiblies, et l'hémorragie se renouvelle facilement,
‘ parceque l'inflammation adhésive s'établit dans ce cas d'une ma-
‘ niere plus lente ; il est indispensable alors de faire deux nœuds à la
‘ ligature, et de lier même les plus petits vaisseaux. L'application
‘ d'un styptique, sur les artères récemment coupées chez les animaux,
‘ suffit ordinairement pour arrêter l'hémorragie et opérer l'inflamma-
‘ tion adhésive. J'ai repeté un grand nombre de fois cette expérience.
‘ Chez l'homme il arrive souvent que les lotions d'eau froide ou l'im-
‘ pression du froid suffisent aussi pour crisper petites artères coupées
‘ et pour produire cette inflammation : en sort que dans beaucoup de
‘ cas, on pourrait se passer de ligature, bien qu'il soit prudent de faire
‘ celle de tous les vaisseaux apparens. Dans les opérations que nous
‘ avons faites à la battaille d'Eylau, avec quatorze et quinze degrés
‘ de froid au-dessous de zero, nous n'avons eu que les gros troncs des
‘ artères a lier, et la ligature la plus superficielle et la plus simple a
‘ suffi. Aucun de nos blessés ne périt d'hémorragie pendant le long
‘ trajet qu'ils eurent à parcourir pour arriver à leur destination, au de-
‘ la de la Vistule.’* Tom II. pp. 335, 336.

* This extract appears to have been carelessly transcribed ; we have corrected several evident errors. The following translation is we believe sufficiently correct.

“ Adhesive inflammation in the coats of a wounded artery occurs most readily in proportion to the irritability of the vessel, and the youth and vital energy of the patient. Accordingly we seldom find hemorrhage follow operations performed for acute diseases, such as wounds received in action. It often happens, however, that the ligatures are displaced or even dragged off by the jolting which the patients undergo during their removal in the hospital waggons to the general hospitals.—This short time (12 or 24 hours) is sufficient to establish the adhesive inflammation. On this account I never make but one knot on the ligature which I employ, even for the largest vessels. The second knot is useless, and often opposes the coming away of the ligature, which may be retained by the cicatrix: and as I have several times witnessed, be extracted with difficulty. I have even been obliged to pass a scissors to a depth sufficient to cut the noose upon the artery.—It is otherwise with operations performed for chronic diseases. The sick are exhausted and their vital powers weakened ; and hemorrhage is easily renewed, because the adhesive process is tardy. It is then necessary to make two knots on the ligature, and to tie the smallest vessels. The application of a styptic to divided arteries of animals, is commonly sufficient to arrest the bleeding and produce adhesive inflammation,—an experiment I have often repeated. In man, the applications of cold water to the part, or the general sensation of cold, will often produce both shrinking of the small arteries, and the adhesive inflammation : so that in many cases the ligature may be omitted. It is prudent, however, to apply it to all vessels that are visible. In the operations we performed at the battle of Eylau, where the cold was 14 and 15 degrees (Reaumur) below zero, we had to tie only the larger arterial trunes.

Young soldiers are subject to a disease in the joint of the hip, and of the vertebræ, which is characterised by our author as the effects of *rheumatic virus*, *(des effects du vice rheumatismal sur le systéme fibreux et osseux)*. It is that formidable disease of the cartilages and articulating surfaces of bones, described by Pott, Ford, Crowther and others, which is sometimes called rheumatism, sometimes scrofula, to conceal our ignorance of the real nature of the exciting cause. Larrey boasts of his success in combating the symptoms of this disease at its first onset; all his patients were between 18 and 20 years of age, and, being soldiers, they of course came under his care before the symptoms had made much progress. If there is the least appearance of local congestion, he applies scarifications and cupping-glasses, blisters, moxa, and the actual cautery to the part affected. Mercurial frictions are

and the most superficial and simple ligature sufficed. Not one of our wounded died from hemorrhage during their long journey to their place of destination, beyond the Vistula."

This passage needs to be interpreted as well as translated, and for our readers' sake *only*, we regret that we are not well enough versed in the French doctrine of the ligature, to be positive that our interpretation is true. The cicatrix by which the ligature is retained (engage) cannot be that of the skin, or M. Larrey would not have cut so deep for its extrication. It must be the end of the artery beyond the ligature, contracted and cicatrised. We presume therefore that M. Larrey depends on loosening his *single* knot, and withdrawing it over this withered end of artery, as soon as he judges adhesion to have taken place; and it is evident that a *double* knot cannot be thus loosened and withdrawn.—*We* not only make double knots but pass the ligature through this very end of artery which is to be cicatrised, and tie it again (as did Dionis a century ago in France) and yet we do not hear of cutting the noose upon the artery.

Our readers are doubtless aware, that the late Dr. Jones has suggested and proved, concerning the operation of the ligature, one of the most simple and scientific doctrines that surgery can boast.—When a ligature is applied round a vessel, the internal coat being brittle is lacerated; while the external, being firm remains unbroken. On the lacerated surface lymph is poured out, by which adhesion of the opposite sides is affected; and the external coat is absorbed where it is compressed by the ligature, which is thus cast off. To such a process a double or triple knot will be no obstacle.—That adhesion of the *unbroken* sides of a vessel can take place, we do not deny; but greater inflammation is necessary to effect it, and the absorption caused by the ligature will be slow on account of its having been tied with less firmness. To this latter set of principles, M. Larrey's practice appears to be adapted.—We must enter our protest against them; as also against the tendency of his remarks to lessen our diligence in the use of the ligature.

Ed. N. Y. Med. Mag.

directed as near as possible to the seat of the disease, at intervals of four or five days, although no suspicion of syphilis exists. This remedy, he says, produces excellent effects in all disorders, improperly called lymphatic disorders, if the patients are not already too much reduced. When matter is formed, he opens the abscess by passing a sharp-pointed wire, heated red-hot, through it, and evacuates the pus as soon as possible, leaving a seton of thread in the opening. The application of moxa is to be continued, and the mercurial frictions, whilst cinchona, opium, and wine are to be administered internally, according to the state of the constitution.

Volume 3d opens to us descriptions of greater variety and higher interest; it begins with the campaign of Saxony and Prussia, in the months of September and October, 1806; and relates the overthrow of the Prussian monarchy at the battle of Jena, which afforded our author the opportunity of visiting Pottsdam, Charlottenburgh, and Berlin. Towards the end of December, the weather became very cold, and several soldiers at Berlin were suffocated by carbonic acid gas, whilst sleeping in rooms overheated by stoves; those men who lay on the floor nearest the stove died, those who slept on tables and chairs, or bedsteads near the windows, escaped. Five men were brought one morning to the hospital in a state of suspended animation, three of whom died, and two recovered. The same morbid appearances were found on dissection, as in persons who died by asphyxia; they are here particularly described.

The army marched from Berlin to the banks of the Vistula, night and day, through cold wet weather, and long roads rendered almost impassable by mud, which reached up to the horses' bellies, and stopped the wheels of the artillery and baggage-waggons at every turn. Larrey describes the march from Golominn to Pultusk as the worst and most difficult the troops ever endured. The soldiers, especially the young conscripts, were exhausted by these forced marches, by bivouacs in wet and cold,

without food and without good drink ; many became affected with catarrhal and gastric fevers.

At Warsaw, he investigated the nature of Plica Polonica, and satisfied himself that it is a local factitious disease, produced by dirt and neglect. It is not contagious, and may be cured with facility, notwithstanding all the absurdities which prejudice and quackery have set forth on the contrary. Dr. Chamseru, an army physician, has written a memoir to establish the same doctrine, derived from his own experience. Our author departed from Warsaw to join the army on the first of February, when the snow was three feet deep upon the ground, and the thermometer stood at 6° and 7° below zero, Reaumur.

The description of the bloody battle of Eylau, and the situation of the surgeons who took care of the wounded, is enough to make the stoutest hearts tremble. The thermometer, early in the morning, had fallen from 24° to 18° of Fahrenheit's scale. The surgical staff was placed in a barn near the road, exposed on all sides, the straw which formed the walls being carried away for the horses ; the wounded men were laid upon the snow mixed with bits of straw ; and the cold was so intense, that the instruments often fell from the hands of the assistants during the operations. In the midst of their laborious and painful duties, they were thrown into great consternation, by an unexpected attack of the Russians upon this very spot, and they all expected to have been taken prisoners, but were saved by a vigorous charge of cavalry, and continued their work until darkness and fatigue obliged them to stop a few hours to warm themselves by a fire, whilst sitting on frozen snow. The impossibility of procuring food, lodging, and accommodations at Eylau, compelled the removal of the wounded, soon after they were dressed, to Inowraklau, a distance of fifty-five leagues, over horrible roads, in this unclement season, and, what is extraordinary, in spite of the difficulties of travelling, and the dangerous nature of their wounds, they arrived at their destination in a very good state. Scarcely one in eleven perished. Some cases which appeared hopeless when

lifted into the waggon, recovered, and on the whole, more men recovered, than if they had been allowed to remain in the hospitals at Eylau, for they were free from contagious fever and hospital-gangrene. The advantages of removing soldiers to distant quarters after a battle are ably stated.

Under the heads of dry gangrene, produced by cold and gangrene of wounds, some remarkable facts are mentioned, and some practical rules given, well-deserving our attention. Few soldiers of the advanced guard in Poland escaped the destructive effects of the severe cold upon their toes, feet, nose, or eyes, after the battle of Eylau. The gangrene in some cases was confined to the skin and soft parts; in others, the feet were destroyed by mortification. What is remarkable not a single man suffered from the frost during the time the mercury was so low as 10°, 11°, 12°, 13°, 14°, and 15° of Reaumur's scale, (down to 0°, Fahrt. and below it); but as soon as the thermometer rose above 0°, R. (up to 43° Fahrt), and a thaw began, many of the soldiers complained of violent pains and numbness in their extremities, with loss of feeling and animal heat, and the parts assumed a deep red colour; *some* were black and dry. Those who got into the town, and exposed themselves to the fire, fared the worst: those who followed medical advice, and rubbed the frost-bitten parts with snow, and brandy and water, escaped mortification, if it had not already taken place. Larrey considers *cold* only the predisposing cause of mortification; the sudden application of a higher temperature to parts benumbed by cold, is, in his opinion, the exciting cause of this melancholy accident.

When gangrene attacks wounds, the progress of the symptoms is essentially different, and the method of treatment must vary accordingly. Whatever may be alleged by authors and practitioners, the result of numerous observations have authorized Larrey to declare that amputation ought to be performed without hesitation or delay in all cases of bad wounds, as soon as ever symptoms of gangrene begin to show themselves. There is no reason to

fear the stumps will be affected by gangrene; amputation properly performed, he confidently affirms, arrests the progress of the disease and prevents the fatal termination.

A good description is given of the medical topography of Madrid; for no sooner had the surgeon general returned from Poland, than he was ordered to inspect the military hospitals in Spain. All the circumstances are stated which may be supposed to occasion the colic, (colic de Madrid); and the conclusion is, that the vicissitudes of the weather, the vast difference between the temperature of the days and nights, and the dress and habits of strangers, not being suited to the climate, render this city an unhealthy quarter for soldiers. It is very important for those who go to Madrid to avoid exposing themselves to the cold and dry air of the evening and night. A malignant fever broke out among the soldiers, which was attributed to the use of adulterated wines; but the proofs of narcotic vegetable poisons being mixed with water, and added to the wine sold in the public-houses at Madrid, are not sufficiently precise and authenticated to establish the fact. Patients were suddenly seized with stupor and suspension of sensorial power, which was followed by violent fever of a low malignant character. Mons. Frizac, the author's favourite pupil, died of this disease on the third day after he was attacked; his death is attributed to his taking opium, and afterwards two or three small glasses full of brandy, bought in some shop where adulterated spirits were sold.

At Valladolid, the sick and wounded among the British prisoners came under our author's care, and he speaks of the miserable condition they were in, from the hardships they had undergone in traversing the mountains of the Asturias, when the thermometer stood nearly at 0° of Fahrt. Typhus fever raged amongst them and also amongst the French, but it was checked by proper care, and by a liberal supply of excellent wine and cinchona, (loxa,) which the Spaniards were compelled to furnish. A curious case is related of an English soldier of the twelfth regiment of light infantry, who became all on a sudden dropsical dur-

ing his convalescence from fever; the anasarcous swelling was confined to the right half of his body, whilst the left side remained in its natural state. This complaint was obstinate, but it yielded at length to the treatment employed by the French physicians. Another case is related of gutta serena, brought on by exposure to severe cold, in a drum-boy, thirteen years old, son of a corporal in the 12th regiment, who was taken prisoner. The boy's hair had been just cut very short, and he had walked, without shoes, from Corunna to Valladolid, in the rigorous winter weather. His case excited great compassion, and our author undertook to restore his sight, which he happily accomplished, by putting him into a bath, by giving him diaphoretic bitter medicines, and by applying moxa over the passage of the facial nerve at its coming out of the cranium, behind the angle of the jaw. His head was rubbed with an alkaline camphorated liniment, covered with a woollen cap, and his eyes washed with warm wine camphorated. After the second application of the moxa, the boy saw light; after the fourth, he distinguished objects and colours; and after the seventh application, his sight was perfectly restored. To prevent inflammation and suppuration from the burnings of the moxa, ammonia was immediately applied upon the parts, which is constantly recommended after using moxa,* and it is a favourite remedy in paralysis and other cases. From his attendance upon the British prisoners, Larrey caught the typhus fever, and, for ten days, was in imminent danger of falling a sacrifice to it at Burgos, but he recovered, and soon set out once more to join the guards who had advanced into Bavaria, on their route for the second campaign in Austria, in the spring of the year 1809. The bridges across the Danube were all destroyed by the Austrians, which compelled the French to construct bridges of boats; and the hospitals were placed on the island of

* May we not on this authority apply ammonia to burnt and scalded surfaces generally? In what properties do ammonia, oil of turpentine, cold water, and cotton wool agree, that they are all efficacious in preventing inflammation when immediately applied?

Ed. Mag.

Lobaw, one of those islands formed by the division of the river into several branches, below Vienna. It was whilst the armies were thus situated that the battle of Eslingen took place, which furnished a great number of wounded, amongst whom was marshal Lasnes, (Duke of Montebello), who was struck by a cannon ball upon the knee and thigh, which fractured the bones of the joint of one limb and lacerated the muscles of the other. His case is minutely detailed, with strong expressions of feeling, for he was the intimate friend of Larrey, and they had been together in many campaigns. His thigh was amputated, but he died on the ninth day after the operation, from fever, at Ebersdorf. The hospitals on the isle of Lobaw, underwent great privations in consequence of the difficult communication with the main-land by the few boats, and the uncertain supply of provisions and the necessaries of life. Larrey was obliged to prepare soup for his patients, made by boiling horse flesh, and seasoning it with gunpowder for want of salt. It was not unpleasant to the taste: the dark colour which it might be supposed to have from the gunpowder, was destroyed by the cooking, and, combined with biscuit, it formed excellent soup, on which the sick and wounded and the medical staff lived three days.

In Germany, as well as in Egypt, Larrey observed, when tetanus was caused by wounded nerves, if the wound was situated on the anterior part of the body, emprosthotonos was the form of disease excited; if the nerves of the posterior part of the body were injured, opisthotonos occured; if the wound extended across a limb, so as to wound equally both series of nerves, complete tetanus took place. Trismus rarely happens from wounds, unless as a part of the general tetanus. This accident does not commonly follow severe wounds, unless in seasons when the temperature of the air changes from one extreme to another. Patients exposed to the cold and damp air of night, especially during the blowing of north-easterly winds in spring, are liable to be seized with tetanus; and it rarely attacks them when the weather does not change. Some cases are related to prove the good effects of applying the

actual cautery to the whole surface of the stump, in tetanus after amputation.

One of the most difficult points in military surgery is to determine when to attempt the extraction of a ball, or any other foreign substance lodged in a wound, and when it is right to let it alone. No certain and invariable rule, our author says, can be laid down ; the sagacity of the surgeon must lead him to decide on every individual case, bearing in mind, that the best practice is to leave the ball when the danger of extracting it is considerable, and when no urgent symptoms are present.

Ample experience has confirmed Larrey's opinion of the advantages of amputating at the hip-joint and the shoulder-joint. After the battle of Eslingen he removed fourteen arms at the shoulder-joint, twelve of whom recovered perfectly. The ease and expedition with which he performs these two capital operations is astonishing ; and the earnestness with which he urges the necessity of amputating as quickly as possible after the injury has been received in a battle, deserves the serious attention of all our naval and military surgeons.

Those remarkable accidents attributed to the *wind of a ball*, are slightly noticed in the course of the author's researches, and he is disposed to consider them as owing to the effects of contusion, which materially injures the nerves and soft parts, although the integuments of the body give way to the impression of the spent ball, and escape being torn or wounded. He gives two histories of soldiers struck down apparently dead, without any marks of severe injury ; they both recovered their senses ; but one of them remained without the power of speech or taste, from the shock supposed to be given to the eighth pair of nerves.

Of several memoirs on practical subjects, our limits will not permit us to subjoin a catalogue. We take leave of this work, expressing our conviction, that the English reader who wishes to be acquainted with the manner, and method, and spirit of French surgery, will thank any translator who will reduce the substance of these three bulky volumes into a compendious and accessible form.

VIII.

Idea of a new Anatomy of the Brain, submitted for the examination of his friends, by CHARLES BELL, *F. R. S. E.*

" The want of any consistent history of the brain and nerves, and the dull unmeaning manner which is in use of demonstrating the brain, may authorise any novelty in the manner of treating the subject."

Nothing can be more true, and yet many things are more striking, than the " dull unmeaning manner of demonstrating the brain." If the heart is to be dissected, we open at the entrance of one of the veins, examine the auricle, pass to the ventricle and examine the mechanism of valves, &c. we trace the great artery passing out, and in imagination follow the blood in its circulation, till passing into new veins it returns to the other auricle ; this and its corresponding ventricle, are then examined. Thus we have a lively " manner of demonstrating," full of meaning, and carrying conviction with demonstration.

The same may be observed of most other parts. Perspicuity and arrangement are generally studied, and even where the ultimate structure cannot be ascertained the anatomical art is not to be censured.

The brain has furnished less than its share of physiological and pathological science. Comparatively speaking, little is known of its structure, nor can there be while it continues to be demonstrated slice by slice. As there is dark matter surrounding its white substance, we can remove a good piece of the upper part of the brain, cut out the cineritious substance at the cleft of the hemispheres, and then behold we have a white central part with an ash-coloured border. We have seen the slicing used to accomplish this pompous demonstration, occupy a full quarter of a lecture. After such pains, it surely is well entitled to the classical appellation of centrum ovale.

This is not the only case in which anatomists have deceived themselves into a good conceit of their own knowledge. The arbor vitæ is about as learned ; cut in this direction and you have a tree—cut in this other, and behold a very marble in layers of cream colour and white.

Far be it from us to forbid the demonstrating of all that is known of this important organ. We only fear lest names be mistaken for knowledge. When a student is told that a blow on the occiput is more dangerous than on any other part of the head, he learns a good practical maxim ; but if if he desires an explanation of the fact, all that is before him is, that the cerebellum is within the occiput, and that the cerebellum contains the arbor vitæ. Or if he hears that a superficial wound of the cerebrum is not always fatal,—is he to account for it by saying that the centrum ovale has not been touched ?

The many intricacies of the nervous system have as yet been improved to no other purpose than aiding the doctrine of sympathies. This is well so far as it goes, it will appear however in the sequel, that many new and important views are offered by Mr. Bell.

For our present purpose we will divide the nervous functions of the body into two classes. The former comprehends sensation, and motion, the latter the vital operations. The first fit the animal for a communication with the world and other beings. The second regulates the internal economy ; and includes perhaps the involuntary motions necessary for the circulation of the blood, and for respiration, and those of the intestines and blood vessels ;—it includes secretion, nutrition and absorption, whether effected by muscular action or by a peculiar power ; also digestion and assimilation so far as these changes are animal rather than chemical.

This division will not we think appear arbitrary, even at first sight, and the quotations we shall introduce from Mr. Bell, will give it great plausibility and consistency.—The cerebrum is supposed to receive sensations, and to distribute volition, which is the cause of motion. The ce-

rebellum is the seat of the vital energies. The following remarks prove that they are distinct organs.

'I speak of the lateral divisions of the brain being distinct brains 'combined in function, in order the more strongly to mark the distinc- 'tion between the anterior and posterior grand divisions. Betwixt the 'lateral parts there is a strict resemblance in form and substance :— 'each principal part is united by transverse tracts of medullary mat- 'ter; and there is every provision for their acting with perfect sym- 'pathy. On the contrary the cerebrum the anterior grand division, 'and the cerebellum the posterior grand division, have slight and in- 'direct connexion. In form and division of parts, and arrangement of 'white and grey matter, there is no resemblance. There is here no- 'thing of that symmetry and correspondence of parts which is so re- 'markable betwixt the right and left portions.

'I have found evidence that the vascular system of the cerebellum 'may be affected independently of the vessels of the cerebrum. I 'have seen the whole surface of the cerebellum studded with spots of 'extravasated blood as small as pin heads, so as to be quite red, while 'no mark of disease was upon the surface of the cerebrum. The ac- 'tion of vessels, it is needless to say, is under the influence of the parts 'to which they go ; and in this we have a proof of a distinct state of 'activity in the cerebrum and cerebellum.

'From these facts, were there no others, we are entitled to conclude, 'that in the operations excited in the brain, there cannot be such 'sympathy or corresponding movement in the cerebrum and cerebel- 'lum, as there is betwixt the lateral portions of the cerebrum ; that 'the anterior and posterior grand divisions of the brain perform dis- 'tinct offices.'*

Almost every part of the body possesses sensation, and secretion and nutrition at least, of the vital functions ; to each of these parts therefore must proceed a nerve from the cerebrum and one from the cerebellum. If we can any where find these nerves separate, experiments may be made to test the truth of the doctrines advanced. The following were made by Mr. Bell, and we consider them as conclusive as any that have been made on the nervous system.

'In thinking of this subject, it is natural to expect that we should 'be able to put the matter to proof by experiment. But how is this 'to be accomplished since any experiment direct upon the brain it- 'self, must be difficult if not impossible ? I took this view of the sub-

* We are unable to quote the numbers of the pages, as our review is made from a manuscript, taken by one of the Editors, from the only copy of the pamphlet in this city.

'ject. The medulla spinalis has a central division, and also a distinc-
'tion into anterior and posterior fasciculi, corresponding with the an-
'terior and posterior portions of the brain. Further, we can trace
'down the crura of the cerebrum into the anterior fasciculus of the
'spinal marrow, and the crura of the cerebellum into the posterior
'fasciculus. I thought that here I might have an opportunity of touch-
'ing the cerebellum, as it were, through the posterior portion of the
'spinal marrow, and the cerebrum by the anterior portion.

'I found that injury done to the anterior portion of the spinal mar-
'row convulsed the animal more certainly than injury done to the
'posterior portion; but I found it difficult to make the experiment
'without injuring both portions.

'Next considering that the spinal nerves have a double root, and
'being of opinion that the properties of the nerves are derived from
'this connexion with the parts of the brain, I thought that I had an
'opportunity of putting my opinion to the test of experiment, and of
'proving at the same time, that nerves of different endowments were
'in the same cord, and held together by the same sheath.

'On laying bare the roots of the spinal nerves, I found that I could
'cut across the posterior fasciculus of nerves, which took its origin
'from the posterior portion of the spinal marrow without convulsing the
'muscles of the back; but that on touching the anterior fasciculus
'with the point of the knife, the muscles of the back were immediately
'convulsed.'

There are few physiological doctrines which have as good an experimental foundation as is contained in the above paragraphs. It is established that the anterior and posterior portions of the spinal marrow are differently affected by the same means. None will deny that these portions are productions of the cerebrum and cerebellum. And as the nerves from the two portions run together to very minute divisions, distinct functions can scarcely be derived from the part to which they are distributed. They must therefore be derived from the brain, and we conclude that the two portions of the brain are very differently affected by the same means, that is, they possess different functions. But one of these functions is sensation and consequent motion (in the above experiments, convulsive motion), that the functions of the other portion are vital, is to be established by farther experiments. These Mr. Bell does not appear to have made. We shall supply the deficiency by a reference to some experiments made by M. Dupuytren in Paris, the

detail of which will be found in the Eclectic Repertory, vol. 1. p. 286.

M. Dupuytren made a number of experiments with the view of " determining the kind and degree of influence of the vital action of the lungs, in the changes which the venous blood undergoes in passing through these organs."—These changes are caused proximately by chemical attraction of oxygen for a part of the venous blood. But an absorption of this oxygen or secretion of part of the blood must be first effected, and these are vital actions. The lungs receive nerves from the eighth pair, or par vagum, which arise from the corpora olivaria, parts of that fasciculus of the medulla oblongata, which arises from the cerebellum.

A horse was secured, (in one of M. Dupuytren's experiments) and the par vagum on both sides were dissected free from the other parts, to be ready for experiments. One of the arteries of the head was then opened, and the florid colour of the blood shewed that the lungs performed their functions. The two nerves were then cut. The animal continued to respire, though with difficulty and apparent pain. But on examining the stream from the artery, it was found of a dark colour like venous blood. This experiment was several times repeated.—When only one of the par vagum was divided, the change was not so complete, but might be observed in the colour of the lips, &c.

As the breathing was not stopped, this appearance of the blood is not to be attributed to the want of oxygen in the lungs,—it is only attributable to a cessation of the vital operation by which it is made to act on the venous blood, in consequence of the division of the two nerves.

In Mr Bell's experiments it was shewn that the nerves of the cerebellum had nothing to do with sensation or motion—in this, it is proved that they are concerned in the vital operations. It is therefore as evident as the case will admit, that the cerebellum is the seat of the vital energies, and that the cerebrum is the organ of volition and motion.

The above " idea" we consider as the most important

part of Mr. Bell's paper. It is very reasonable and consistent, and it affords great relief to the mind from some of the intricacy and perplexity in which the study of the brain is involved. Several very curious reflections arise from this "idea." In the first place some explanation is afforded of the particular structure of nerves. Thus a nerve of sensation, a nerve of motion, a nerve conveying vital power, destined for a particular part, or many of them destined for several parts, may be all included in one bundle; and thus "the nerves which we trace in the body are not single nerves possessing various powers, but bundles of different nerves whose filaments are united for convenience of distribution, but which are distinct in office as they are in origin from the brain." In the next place we may perceive

'The meaning of the double connexion of the nerves with the spinal 'marrow; and also the cause of that seeming intricacy in the con-'nexions of nerves throughout their course, which were not double at 'their origin.

'The spinal nerves being double, and having their roots in the spinal 'marrow, of which a portion comes from the cerebrum, and a portion 'from the cerebellum, they convey the attributes of both grand divi-'sions of the brain to every part, and therefore the distribution of 'such nerves is simple, one nerve supplying its destined part. But the 'nerves which come directly from the brain, come from parts of the 'brain which vary in operation, and in order to bestow different qua-'lities on the parts to which the nerves are distributed, two or more 'nerves must be united in their course, or at their final destination.— 'Hence it is that the first nerve must have branches of the fifth uni-'ted with it;* hence the portio dura of the 7th pervades every where 'the bones of the cranium to unite with the extended branches of the 'fifth; hence the union of the 3d and 5th in the orbit; hence the 9th

* Mr. Bell's argument will be better understood by bearing in mind the origin of the nerves, whether from the cerebrum or cerebellum.

1st	arises from	corpora striata	
2d.	do.	thalami	
3d.	do.	crura cerebri	
4th	do.	nates and testes	
5th	do.		crura cerebelli
6th	do.	corpora pyramidalia	
7th	do.	pons varolii	
8th	do.		corpora olivaria
	accessory		posterior roots of the 4. 5. 6. & 7
9th	do.	between corp. oliv. & pyramid.	[cervical

'and 5th are both sent to the tongue; hence it is, in short, that no 'part is sufficiently supplied by one single nerve, unless that nerve be 'a nerve of the spinal marrow, and have a double root, a connexion '(however remotely) with both the cerebrum and cerebellum.

'Such nerves as are single in their origin from the spinal marrow will 'be found either to unite in their course with some other nerve, or to 'be such as are acknowledged to be peculiar in their operation.

'Understanding the origin of the nerves in the brain to be the source 'of their powers, we look upon the connexion formed betwixt distant 'nerves, and upon the combination of nerves in their passage, with 'some interest; but without this the whole is an unmeaning tissue.— 'Seeing the seeming irregularity in one subject, we say it is accident; 'but finding that the connexions never vary, we say only that it is 'strange, until we come to understand the necessity of nerves being 'combined in order to bestow distinct qualities on the parts to which 'they are sent.'

Although we admire these "ideas" of the brain, we cannot but acknowledge one difficulty which appears to have escaped Mr. Bell. The gustatory nerve is a nerve of sense, that is sensation; it is however supposed to be a branch of the 5th pair, which is traced to the crura cerebelli. If this be the real origin of the nerve of taste there will be some *confusion* in the "idea," although the facts on which it is built, cannot be invalidated by a contrary fact. That the nerve of taste is furnished by the fifth, is rather admitted than proved;—if it be not furnished by the ninth, it may be by the portio dura of the seventh, from which the chorda tympani is sent to the gustatory branch of the fifth. Perhaps an experiment could be devised by which this might be tested. But even if it could not be proved, it cannot be denied; and it is sufficiently probable to meet the above difficulty.

We cannot leave unnoticed Mr. Bell's remarks on the seat of the intellectual functions. In these he is far from being so satisfactory as in his other "idea;" he has, however, supported his opinions with considerable ingenuity.

'—— we find, when we compare the relative magnitude of the ce- 'rebrum to the other parts of the brain, in man and in brutes, that in 'the latter the cerebrum is much smaller, having nothing of the rela- 'tive magnitude and importance, which in man it bears to the other 'parts of the nervous system; signifying that the cerebrum is the seat 'of those qualities of mind which distinguish man.'

'As we proceed further in the investigation of the function of the 'brain the discussion becomes more hypothetical. But surely physi- 'ologists have been mistaken, in supposing it necessary to prove sen- 'sibility in those parts of the brain which they are to suppose the seat 'of the intellectual operations. We are not to expect the same phe- 'nomena to result from the cutting or tearing of the brain as from in- 'jury to the nerves. The function of one is to transmit sensation, 'the other has a higher operation. The nature of the organs of sense 'is different, the sensibilities of the parts of the body are very various. 'If the needle piercing the retina during the operation of couching 'gives no remarkable pain, except in touching the common coats of the 'eye, ought we to imagine that the seat of the higher operations of the 'mind should, when injured, exhibit the same effects with the irritation 'of a nerve? So far therefore from thinking the parts of the brain 'which are insensible, to be parts inferior (as every part has its use) I 'should even imagine that they had a higher office. And if there be 'certain parts of the brain which are insensible, and other parts which 'being injured shake the animal with convulsions, exhibiting pheno- 'mena similar to those of a wounded nerve, it seems to follow that the 'latter parts which are endowed with sensibility like the nerves, are 'similar to them in structure and use, while the parts of the brain 'which possess no such sensibility, are different in function and organ- 'isation from the nerves, and have a distinct and higher operation to 'perform.

'If in examining the apparent structure of the brain, we find a part 'consisting of white medullary striæ and fasciculated like a nerve, we 'should conclude that as the use of a nerve is to transmit sensation, 'not to perform any more peculiar function, such tracts of matter are 'media of communication, connecting the parts of the brain; rather 'than the brain itself performing the more peculiar functions. On 'the other hand if masses are found in the brain unlike the matter of 'the nerve, and which yet occupy a place guarded as an organ of im- 'portance, we may presume that such parts have a use different from 'that of merely conveying sensation; we may rather look upon such 'parts as the seat of the higher powers.

'Again, if those parts of the brain which are directly connected with 'the nerves, and which resemble them in structure, give pain when 'injured, and occasion convulsion to the animal, as the nerves do when 'they are injured; and if on the contrary such parts as are more remote 'from the nerves, and of a different structure, produce no such effect 'when injured, we may conclude that the office of the latter parts is 'more allied to the intellectual operations, less to mere sensation.

'I have found at different times all the internal parts of the brain 'diseased without loss of sense;* but I have never seen disease gene-

* The case of B. V. in the Conclave Cadaveris the present number, will exemplify this.

'ral on the surface of the hemispheres without derangement or op-
'pression of the mind during the patient's life. In the case of derange-
'ment of mind falling into lethargy or stupidity, I have constantly
'found the surface of the hemispheres dry and preternaturally firm,
'the membrane separating from it with unusual facility.

'If I be correct in this view of the subject, then the experiments
'which have been made upon the brain tend to confirm the conclu-
'sions which I should be inclined to draw from strict anatomy; viz.
'that the cineritious and superficial parts of the brain are the seat of
'the intellectual functions. For it is found that the surface of the
'brain is totally insensible, but that the deep and medullary part
'being wounded the animal is convulsed and pained.'

We will neither add to nor diminish from this argument of Mr. Bell. He has certainly the merit of ingenuity, and his theory is not without some analogies in its favour. We would ask, however, if the intellectual operations are performed in the cineritious substance of the cerebrum, what is performed in that of the cerebellum? The functions of the two parts are different, and their cineritious portions certainly are not continuous.*

We have quoted largely from Mr. Bell's paper, for we have seldom seen so much information on a very intricate subject contained in so small a compass; and we should not be surprised if they were to lead to improvements, at least in theory, if not practice.

Instead of merely shewing the student the cerebrum and cerebellum, and closing the lecture with a dull description of their external and internal appearances, let him be told that the former is the seat of sensation and volition, and probably of the intellectual functions. Let the experiments, analogies, and illustrations of Mr. Bell be adduced with as many more and better as can be made. Let him be told that the functions most essential to life are dependant on

* The query we have stated will admit an explanation, which though very theoretical, is perfectly consistent with Mr. Bell's "idea."

As the cineritious substance of the cerebrum is the seat of the faculty which takes cognisance of sensation, and superintends the distribution of volition, so may the cineritious substance of the cerebellum lodge a faculty having similar charge of the vital operations. There must doubtless be nervous filaments passing to the cerebellum, and proceeding from it; but we have no name for their *separate* functions, because we are unconscious of them. We are also unconscious of the operations of this supposed faculty; its existence, therefore, cannot be proved by observation or experiment; it is only supported by the analogy we have mentioned.

the cerebellum, that cut off from it the lungs will no longer purify the blood, that secretion will be stopped, and the power of the whole frame completely prostrated. Or if Mr. Bell's doctrines are not fancied, let experiments be made, and observations collected to disprove them. They are not beyond the reach of such opposition, but they can be reached by experiments only. If they should prove merely hypothetical, they will be infinitely more worthy of notice than the centrum ovale and arbor vitæ.

Enquiries into the seat of the mind have been charged with tending to establish materialism. This cavil is very short-sighted. There is no more materialism in placing the mind in the pineal gland, or the cineritious envelope, than there is in finding it placed in man. If the whole material frame contains the mind, any part of it may, and the argument for materialism be not a whit advanced. That materialists have forced these speculations into their service, is indeed true; but this also is very short-sighted. When sensation is felt from the pressure of a substance, from the impact of light upon the retina, or from vibrations within the semi-circular canal and cochlea, the impression and the perception are so wide, that no one considers these impressions as the perceptions. But imagine these impressions to be continued into the different parts of the brain, and then imagine some action or other change effected in these parts, or trace in imagination those actions still farther, to the cineritious matter of the cerebrum—and there are those who wish to think these changes the very perceptions. This is a mental idiosyncrasy for which we know not how to prescribe. Our ordinary understandings, and our more ordinary imaginations, can find, in the nicest changes of figure, no diminution of the great chasm between matter and mind.

IX.

Letters concerning the diseases of the Urethra, with plates, by CHARLES BELL. *American edition* 8vo. *pp.* 155 *printed at Boston,* 1811.

Of all the consequences of Gonorrhæa, strictures are certainly the most dreadful.—Inflammation in any way induced is liable to lay the foundation of them, they are not therefore always preceded by Gonorrhæa, for we have known accidental violence done to the penis, the cause of an obstinate stricture, and rude and improper attempts to introduce a catheter may have the same effect. In a general way however they are to be traced to irrregularities at some period of life.—It does not follow that strictures are a general consequence of Gonorrhæa, for we know perfectly well that many persons are cured without ever having the least symptoms of stricture, yet we are of opinion that they more frequently exist than many practitioners are aware, and sometimes render gleets exceedingly obstinate, and even incurable without the removal of the stricture.—The effect of inflammation upon the membrane of the urethra is to thicken it, and occasion a narrowing of the canal as we see in Gonorrhæa, by the stream of water being of a diminished size; this inflammation if violent is apt to leave in some part of the urethra a permanent contraction, from an effusion of coagulating lymph either on its surface or between it and the corpus spungiosum urethræ. In proportion to the violence of the inflammation will be the quantity of this lymph and of course the extent and size of thestricture. This is a hardened or degenerated state of the mucous membrane of the urethra, by which it looses its elasticity and pliancy, and is if you please in a state of callosity. The idea of a caruncle, or cicatrix in our opinion is entirely unnecessary, as all the phenomena of strictures can be explained upon the well known principles of inflammation.

The urethra in the adult being about nine inches in length, there is a very considerable extent of surface exposed to inflammation; strictures however are occuring most frequently at three different places where there is the most motion, as at the pubis, where it is bent, and at the lower part of the bulb and beginning of the membranous part, where it is constantly acted upon by the surrounding muscles. The inflammatory action in these situations must be excited to a higher degree, than in any other part of the canal, for we do not believe with some that the inflammation is confined to within an inch or two of the extremity of the penis. In dissection the end of the urethra for an inch or two, say in Gonorrhæa, has been found in a high state of inflammation, which has led many to suppose that it extended no further. This no doubt is true, in mild cases, but when the disease is in any degree violent, (which cases are most apt to lay the foundation of stricture) it not only extends throughout the whole of the urethra, but even affects the mucous membrane of the bladder, producing an alarming and very painful affection.

Inflammation then, in whatever way induced, is liable if in any degree violent to lay the foundation of stricture. This though ever so small in the commencement, may progress till the canal of the urethra is nearly obliterated.—What occasions their increase, is not in our power to determine; (except from slight inflammations now and then induced, from various causes) we simply know the fact, that a comparatively slight inflammation, has laid the foundation of a stricture, and in a case of this kind which we have recently cured, it was about twenty years after the infection was contracted, before the symptoms became so urgent as to induce the patient to apply for relief. From the account which this gentleman gave of the treatment of the Gonorrhæa, it appears to have been very injudicious; having used as an injection which excited so much inflammation, that a complete tube of coagulating lymph of nearly the whole extent of the urethra, was in a few days thrown off, at the same time a bougie was frequently introduced. This mode of treating a Gonorrhæa is too palpably absurd

to require any refutation, but there is another which is much more common, and we believe very general, which likewise very frequently occasions stricture; whch is the free use of saturnine or lead injections. We are not exactly prepared to give an explanation of the fact, but we believe our own observation warrants us in saying, that saturnine or lead injections more frequently are followed with strictures than those used with a base of zinc.

Strictures are sometimes several inches in extent, at other times there is only a small point or callosity, and in some we find a small hardened cord placed across the urethra. These appearances were well described by the ingenious and original John Hunter, but his explanation of the cause of them was not perhaps altogether legitimate or correct. He believed that the urethra was muscular and that from the contraction of a fibre or a fasciculus of fibres were produced all the varieties of strictures; some of which he resembled to a thread tied round the canal, others of a larger size to a riband, &c.—Mr. Home does not appear to us to have been more successful than his brother-in-law, John Hunter, in his investigations into this part of the subject, as he seems to have adopted the same opinion. Mr. Charles Bell, whose work we purpose to examine, has disregarded published authorities and had recourse to the best of all guides, anatomical investigation, and has deduced a very different inference, and in our belief a very correct one, which, is, that the urethra is not muscular. He says, p. 102.

'I take my ground on the basis of morbid anatomy. Wherever this 'has been steadily adhered to as the foundation of observation and rea-'soning in our science, that science has been progressive: It has been 'interrupted in its course, even amidst the most brilliant reputation of 'its professors, wherever men have arisen whose inventive powers 'have led them to reject, rather than to seek, the aid of atamony.— 'In perusing books on this subject of stricture in the urethra, you will 'have particular occasion to observe, that ignorance of the appearance 'of disease kept surgeons for a long time undecided and wavering in 'their opinions, and feeble and inefficient in their practice; while Mr. 'Hunter, by establishing one distinct fact, regarding the nature of this 'very common complaint, did infinitely more good than even by the hint 'of practice which he left in legacy to the profession: or than has been 'done by all the authors before or since his time.

Mr. B. wishing still further to establish the important fact, instituted a number of well directed experiments upon the urethra in a sound state ; the results of which were likewise very conclusive. He first introduced a small ivory ball with a thread attached to it, several inches down the urethra, and found that it could not be expelled with the greatest efforts of which the man was capable, though it was removed with the greatest facility by the thread. He then filled the urethra for five inches with a fluid through a glass tube ; the urethra was then compressed and the tube elevated so as to distend it. The height of the fluid in the tube was not the least altered by an exertion of the person on whom the experiment was made, but a very slight touch of the distended urethra occasioned an immediate rise in it. He observes p. 107, 108, 109.

' I made the following simple experiment, in order to put this to the ' test. I got a small ivory ball, to which I attached a thread. I in- ' troduced the ball into the urethra ; I made the man endeavour all he ' could to push it out, but he could not ; neither was it retained in the ' slightest degree when pulled by the thread. I thought it might be ' more satisfactory if I imbued the ball with something stimulating ; ' I tried coarse soap and spirits ; but still there was no power in the ' urethra to retain the ball, or to push it forth. This could be done ' only by the urine behind it, and the operation, of the bladder, or the ' ejaculator seminis. I need not add that this experiment was made ' upon a part of the urethra, anterior to the seat of the ejaculator se- ' minis. In the course of practice, I find that, when the silver ball is ' introduced down to the ejaculator seminis, it is resisted by the mus- ' cle, especially when the parts are irritable. I find it sometimes thrown ' out of the grasp of the muscle, but when pushed fairly into the simus ' of the urethra, which is into the middle of the muscle, the ball is al- ' lowed to remain.

' I wished also to have the fact of the action of the urethra on fluid ' before you. This was easily done. I employed a glass tube to throw ' an injection into the urethra, the extremity of the tube being adapt- ' ed to pass into the extremity of the urethra. Pressure was made on ' the urethra five inches down. By elevating the tube or column, in ' the manner of the mercurial injecting apparatus, the fluid distended ' the urethra : but no irregularity in the height of the fluid in the tube ' indicated any muscular power in the urethra to discharge its con- ' tents. When the urethra was distended, the slightest touch upon it ' with the finger elevated the fluid in the tube ; but no effort of the pa- ' tient produced the effect. When he made the effort it was with the

'ejaculator seminis behind the part of the urethra compressed by the 'fingers.

'Here is a simple detail of facts, which are in themselves conclusive 'on this point, viz. that the part of the canal anterior to the muscles 'which surround it has no muscular power. If we examine the struc- 'ture of the canal of the urethra anatomically, we shall be irresistibly 'led to the conclusion that it is merely elastic; and that where muscular 'action is required there are superadded muscular fibres embracing the 'proper canal. I have carefully examined the membrane of the u- 'rethra through its whole extent. I find it very thin and delicate; but 'I see no appearance of muscular fibres transverse or longitudinal. I 'have examined, by dissention, the part of the urethra in the neigh- 'bourhood of stricture; but in circumstances of long continued irrita- 'tion, and where the muscular coat of the bladder was greatly increas- 'ed in strength, I have not found a corresponding change on the ure- 'thra. Mr. Chevalier imagines, that in cases where there has been 'much irritation from blisters preceding death, the muscularity of the 'urethra has become evident. Although there are few whose opinion 'would influence me more than this gentleman, yet I can see nothing 'in his preparation but the effect of corrugation; a semblance of fi- 'bres which would disappear on stretching the canal. At most, what 'are seen on dissection are but fibres; and in the simplest membrane, 'as in the peritoneum, fibres are always to be seen on minute inspec- 'tion, where nevertheless there is no muscular power.'

The non-muscularity of the urethra being now well established, we are better prepared to examine the effects of inflammation upon it, and deduce a cure founded on the basis of anatomy. Our author begins by giving in a summary way an account of the different states or varieties of strictures; as the simple stricture, stricture from inflamed lacunae, stricture near the orifice of the urethra and visible, dilatable stricture, spasmodic stricture, and stricture with stone in the urethra. The place of stricture and the part of the urethra which is most apt to be inflamed, we think Mr. Bell has happily described. In some instances he believes a stricture may exist near the extremity of the penis, where the gonorrhæal inflammation first attacks, and is frequently the most violent, at the curve of the penis where it hangs from the pubes, about the bulb, or in the membranous part of the canal. He says, p. 28.

'When seated midway in the urethra, and at the part where the 'penis hangs down, the stricture often extends only to one half of the 'canal, which of course is the lower half. The cause of stricture

'being so frequent near the bulb is, that this is really the most sensi. 'ble part of the whole canal. It possesses a peculiar sensibility, to 'govern the action of the muscles seated there, and this sensibility 'gives rise to inflammation and to morbid irritability of the surround- 'ing muscles.

'I have not had an opportunity of examining the urethra by dissec- 'tion, where I was certain that there had been a recent gonorrhæa; 'but in the subjects of the dissecting room, I have seen inflammation 'of the urethra near the extremity of the penis and inflammation also 'near the neck of the bladder and at the bulb, while there was no 'unusual appearance in the intermediate part of the canal. This 'fact, in combination with the circumstances of practice, induces me 'to believe that there is a direct consent betwixt the two extremities 'of the urethra, and that they sympathize in disease; that irritation 'in the fore part of the canal is quickly conveyed to the bulb and 'neck of the bladder, just as inflammation seated near the neck of the 'bladder will give the sensation of pain in the part of the urethra be- 'hind the glands.'

Mr. Bell we think with great propriety retains the term callosity, as expressive of that degenerated state of the urethra in strictures, where they frequently approach to a state of cartilaginous hardness. All strictures do not give this idea upon the introduction of a bougie, it is confined to those commonly of a small extent, or where there is as it where, a small nodule of coagulating lymph deposited, so that it seems like a little button, as the bougie slips over it. When the hardened or degenerated state of the canal extends over a greater space, it is not so readily discoverable by the bougie, though dissection shows it to be essentially the same in its nature. Mr. Home is of opinion that in long callosities there have been two strictures, and that the intermediate portion of the canal in consequence of the absence of urine, contracts very much in size. This perhaps is not quite correct, for we find upon dissection where the bladder has been punctured and the urine discharged a long time through the wound, that the urethra anterior to the total destruction has remained in a perfectly natural state.

'It is evident, therefore, that the mere cessation of the usual dis- 'tension of the urethra will not be followed by stricture or permanent 'contraction of the canal. These callosities, or long strictures, are 'always irregular; and this irregularity cannot be accounted for on

'the supposition that the canal at this part has become rigid for want 'of the usual distention of the urine. I entertain no doubt that those 'contractions of the urethra, which extend to a considerable length of 'the canal, are produced by more severe attacks of inflammation than 'those which produce the common stricture. This sort of callosity 'of the canal differs from the more common stricture in this, that in 'consequence of the spongy body, which surrounds the canal of the 'urethra, often partaking of the effect of the inflammation, the cells 'are obliterated; and what was loose, spongy and dilatable has be-'come condensed and rigid. This undilatable condition of the urethra, 'when examined by the bougie, or probe, gives the sensation of great 'irregularity; the point is interrupted, and feels as if it were moving 'over eminences on alternate sides of the canal. When the ball 'probe, or urethra sound, is introduced through the anterior part of the 'stricture there is difficulty in pushing it down, and a slight impediment 'is felt in retracting it. p. 30, 31, 32.'

The canal of the urethra is not only diminished in width to several inches in extent, and very rigid, but sometimes has the spongy substance nearly obliterated all around it. This state of the spongy part of the urethra must be occasioned by the inflammation gluing together the cells, as takes place, though only in a small and temporary degree, in a chordee.

When a stricture is so complete as to occasion retention, of urine, and particularly when it has been gradually increasing, the urethra between it and the bladder, will be found very much dilated, and distended with urine, which can be easily discovered by the fluctuation. This fact deserves to be recollected, inasmuch as we may take advantage of it in our practice and relieve the distention of the bladder by simply passing a lancet into it through the perineum. This we have known done several times by Mr. Astley Cooper of London, and the bladder completely emptied. After which means were used to remove the stricture, and the patient saved from the dangerous operation of Paracentesis Vesicæ.

Inflammation supervening upon a stricture if not followed by retention of urine, will sometimes extend itself to the bladder, and produce a train of very distressing symptoms. If retention take place and the urine be not evacuated, inflammation comes on, which terminates in gan-

grene, and an opening discharges the urine into the cavity of the pelvis and abdomen. We do not believe the accounts given by some of the bladder being ruptured by the over-distention, but that at some point it must be disorganized before the rupture takes place. The bladder too from stricture becomes very much thickened, especially if it be of long continuance, which no doubt is occasioned by the violent efforts that are made to expel the urine, increasing its muscular power.

Our author has demonstrated by dissection that inflammation is frequently found in the urethra above a stricture, and rarely if ever below ; which enables us very readily to explain the uniform occurrence of fistulæ in perineo posterior to the stricture. A fistulæ in perineo, may be occasioned by the lacunæ being distended with matter and bursting outwardly in the perineo, or giving way in consequence of the frequent reguigitations of urine into them ; the urine is then extravasated in the surrounding cellular substance, abscess takes place, and the fistulæ is formed. The latter is much the most frequent cause.

Strictures give rise to enlargements of the prostate, to ulceration of it, and to the formation of fistulæ in its substance, which Mr. B. thinks are of the worst kind. The natural ducts of this gland in his opinion are sometimes so much enlarged as to receive the end of the largest bougie, and by ulceration from fistulæ. The catalogue of mischiefs is not yet complete. They occasion a great enlargement and inflammation of the ureters. " I have seen them" says Mr. B. " as large as a small intestine, and much inflamed.

The kidneys next suffer : this may be inflammation, ulceration and complete absorption of one of them. Effusion has taken place upon the surface of the brain, and lastly they give rise to hemiæ.

Mr. Bell after describing the varieties of strictures and their effects, devotes his second and third letters to the consideration of the dilatable and spasmodic structures. The dilatable stricture of our author is what we generally understand as the permanent ; the latter of which term we

consider much the most appropriate. If the urethra be to any considerable extent in a state of callosity, we conceive it to have lost all its pliancy and elasticity and to possess very little dilatability. In general we think when a bougie can be introduced, though of ever so small a size, the stricture may be cured by gradually increasing it, but we do not believe it cures it by dilating or stretching the urethra, but by mechanically or by pressure promoting an absorption of the most projecting parts of the canal. We recollect to have heard a very eminent teacher of Surgery in London describe a stricture of the urethra, where a full size bougie could be readily introduced, but the patient was unable to pass his urine, in consequence of the closely collapsed state of it. He called it an elastic stricture but observed that it was a curious anomaly, and that it was not to be cured either by the common or caustic bougie.

In the permanent stricture the first symptom that occurs, is a more frequent inclination to make water, the patient contrary to his usual habits being obliged to rise several times in the course of a night ; this will continue for some considerable time before any other change is observed. Then the stream of urine which before was round, is observed to be broad and flat, and after this it will be forked or split ; which last appearance commonly alarms him. The urine is commonly clear and natural in the early stage of strictures, but after they have lasted for some time it will be more or less milky or of a whey colour, in consequence of the inflammation extending to the mucous membrane of the bladder.

It appears to us from what Mr. Bell has said of the dilatable stricture, that it is only the early or beginning state of the permanent stricture before the gonorrhæal inflammation has altogether subsided ; indeed he says some of his patients, (from whom he drew the character of the dilatable stricture) imagined that they had got a recent gonorrhæa. We quote his own words.

' The account which the patient gives of himself is nearly this :— ' That, some time before, he had a severe gonorrrhæa; that being ' particularly circumstanced, he could not so well observe the direc-

'tions of his medical attendant as perhaps the case required : that the 'disease continued long severe, and he doubts even now whether he 'be entirely well : for he has observed that, although the discharge 'sometimes disappears and he is free from any uneasiness, yet occa-'sionally the symptoms return; at which time he has been sensible of 'a fullness in the perinæum, while, even during the absense of the 'discharge, there is still a heat of urine, and he has imagined a diminu-'tion of the stream of urine ; that of late the call to make urine has 'become frequent, and he does not see what a young fellow has to do 'rising three times in the night to make water ; and that whenever he 'exceeds in wine, or takes unusual exercise, or has connexion with 'women, the symptoms increase with a considerable discharge from the 'urethra.

'Sometimes a patient comes to us with this complaint, imagining 'that he has got a recent gonorrhæa ; but, although there be discharge 'from the urethra, there is no readiness or swelling of the lips of the 'urethra, or inflammation of the glans or prepuse (*la gonorrhee habi-'tuelle benigne.*)

'When the urethra thus affected is examined by the bougie, it is 'found to be unusually sensible ; and when we carry the bougfe down 'to the stricture, there is severe pain, and the patient shrinks from the 'hand. If he allows us to persist, we shall be sensible of resistance to 'the point of the bougie ; and if we force the instrument on, we shall 'feel it grasped as by a common stricture. p. 62, 63, 64.'

Our opinion we think is further strengthened by the following.

'This state of the urethra differs from that of proper stricture, in 'being less rigid and firm. If, after examining a patient, whose ure-'thra is in this state, you call the disease, stricture, and he happens to 'consult another surgeon, he will be told that it is no stricture, and 'to prove this, one of the largest bougies is passed with exultation !— 'But this dilatation is not a cure of the disease ; on the contrary, every 'unpleasant symptom is often aggravated by the violence which has 'been used. p. 65.'

Mr. Bell states that the symptoms which he lays down as characteristic of dilatable stricture may and do remain a long time without seemingly undergoing any material change. He states the instance of a young gentleman who had these symptoms for eighteen months before he applied for assistance. The progress of a stricture as we have already remarked, is commonly slow, but when once the foundation is laid, it rarely we believe is otherwise than in a state to give a great deal of trouble and distress at some period of life, though it may be twenty or thirty

years afterwards. It commonly happens that several strictures will be found in the urethra at the same time, and one generally will be much the most rigid and firm, and this it is which has been of the longest standing.

'When, however, the complaint is of long standing, there are often 'several parts of the canal inflamed; *perhaps one of these spots gives proof* 'of an unelastic and confirmed stricture having been formed. I have 'found a dilatable stricture deep in the urethra, and near the bladder, 'while there was a confirmed cartilaginous stricture near the extremi- 'ty of the urethra. Indeed, when there are two or three strictures in 'the urethra, we are sure to find some of them more dilatable than the 'others. The original and first formed stricture is firm, and the resis- 'tance it gives is abrupt; while the others partake more of the na- 'ture of the disease which I have here described. On one occasion, I 'found several parts of the canal inflamed, contracted and unnaturally 'sensible; after the lapse of nearly a year, I found the anterior of 'these spots of the urethra confirmed into a rigid stricture, having lost 'that elasticity which enabled me by gentle and continued pressure to 'dilate it. p. 67, 68.'

To ascertain the form of the stricture some have been in the habit of introducing a soft wax bougie, as if a knowledge of the shape and length of it would at all expedite the cure. Mr. Bell considers it essential to be acquainted not only with the form of the stricture, but with the number, and for this purpose has invented a new instrument, which he calls the urethra sound or ball probe. This he says will not only enable us to determine the form and number of the strictures, but it has an evident advantage in not occasioning so much irritation and thereby not followed so often by faintness or that "indescribable nervous sensation which is so apt to creep over a person on the first introduction of a bougie."—Insomuch that Mr. B. states patients have often begged him to introduce them previous to the bougie. This is a pretty little instrument contrived by a very minute Anatomist, for a very minute purpose. But we must confess we never have been able to see the utility of introducing any instrument, (not even the soft wax bougie) with a view to see the shape of the stricture impressed upon the end of it. If a patient labours under symptoms of stricture, we must pass a bougie of the common kind, and if it be too large to pass the stricture, a

smaller must be used, but if the smallest will not pass, there is only one alternative, which is to apply the caustic bougie. This case is often realized in practice ; why then should we be solicitous to know the shape, extent, and number of strictures that may exist : if one of this kind is discovered, that must be removed first, and then the others in succession. If the urethra have lost its elasticity in that part where the stricture is situated, and in proportion to the duration of it more or less obliterated, in the same ratio will be the difficulty of passing any thing beyond it. Mr. Bell speaks of the inflammation and " exquisite sensibility of the canal at particular points and especially behind the strictures," which he is able to discover by the use of the ball probes. We have seen Mr. B. in his lectures go through the manual or exercise with the ball probes, but we must confess we were never so much pleased with the evolutions as to enlist in the service. His discovery of the exquisite sensibility of the urethra at particular points, and especially behind a stricture, is what we should always expect to find, if we were to exert the same force in passing them, which we have seen used by their admirers.

When the smallest cat-gut or common bougie can be made to pass through the stricture, an easy and effectual cure may generally be made. It is not the occasional introduction of a bougie of a larger and larger size, for a few weeks that will answer the purpose, but the daily use of it, and for months together. The caustic or armed bougie ought never to be used in these cases till after a long and faithful trial has been given to the common, and we believe it will be rarely if ever necessary to use the caustic, except in those cases where the smallest common bougie cannot be passed ; or where the surrounding muscles are spasmodically affected, forming the spasmodic stricture. In such cases we have no hesitation in using it, and should the common one be unsuccessful after preserving in its use for a long time, and the patient anxious to be relieved, and willing, the caustic may be applied. But we ought always in these cases to state to the patient the unpleasant consequences which sometimes follow the use of the caustic, and

rather urge them to persevere in the use of the common a little longer. We regard the introduction of the caustic bougie as a valuable acquisition to the practice of Surgery. But we fear, and indeed we know, some are too much in the habit of using the caustic where the common would answer every purpose. The indiscriminate use of the armed bougie to every stricture where the largest bougie is arrested, as recommended by Dr. Andrews,* appears to us so unqualified and unwarranted, that it cannot be too severely censured. We have seen the caustic frequently used with the best effects, at other times though it has removed the stricture, an abscess has formed in the perineum, attended with an erysipelatous affection of the scrotum and penis, great tumefaction, and sloughing of the integuments of the penis, which had nearly cost the patient his life.

Before the caustic is used, introduce the common bougie down to the stricture for the space of a quarter to half a minute; this dilates the urethra, and makes the caustic follow on with much more ease, and prevents the sound part of the urethra from being injured by it. Too much care cannot be taken to prevent the other parts of the urethra from being affected with the caustic, and for this purpose when the common bougie is in contact with the stricture it ought to be marked with the nail, so that the exact distance of the stricture from the orifice of the urethra may be transferred to the caustic, in order to make us entirely satisfied that our caustic has gone right. The edges of the armed bougie ought to be pared off, so as to lay the caustic bare, and when oiled it ought to have the curve of the catheter given it; this ought to be attended to as it very much facilitates the introduction of all bougies.

There will also be less danger of making a false passage by following the course of the canal correctly. False passages are among the evils resulting from the use of the caustic bougie, but he must be very ignorant of the Anatomy of the parts, and inattentive to the course of the bougie, who occasions such dreadful havoc as we have some-

* See Observations on the Application of Lunar Caustic to Strictures in the urethra and Œsophagus.—By R. W. Andrews M. D. &c.

times witnessed. We recollect to have seen in Mr. Bell's valuable collection of morbid preparations a specimen in which the caustic had made a false passage down into the scrotum, between the testes. The irritation and suppuration which it occasioned, if we are not mistaken, caused the man's death.

When the caustic is first introduced it only ought to touch the stricture, and be withdrawn immediately. After using it a few days in this way, it may remain in contact with the stricture till the patient feels a little heat, which will be from one to two seconds, and never should remain longer than half a minute. It ought at first to be introduced every other day, and if no unpleasant symptoms arise it may be repeated every day. A few applications of the caustic will sometimes remove extensive and long standing strictures, while at other times they require months before they are removed, though at first they seemed but trifling. We have known a stricture situated within an inch of the neck of the bladder, which had been attended with incontinence of urine for more than twelve months, entirely cured by twenty five applications of the caustic. From the sloughs which came away upon the caustic every second and third day, about half an inch of the urethra must have been restored. Almost every application of the caustic occasioned in this man a severe ague, but he was encouraged to persevere in hopes of being relieved of what rendered life a burden (the incontinence of urine) which he happily realized.

Mr. Bell made a comparative trial of the effects of the alkaline and lunar caustic, not only in the urethra of several persons, but upon his own arms. From these experiments he is decidedly in favour of the argentum nitratum, in all cases of stricture, as by far the most effectual remedy. He tried the kali purum as recommended by Mr. Whateley, and found as he states that it very much lessened the sensibility of the urethra, but by mixing with the mucous of the urethra it formed a kind of soap, and did not act upon the solid stricture.

'Further experience, however, of the effects of this alkaline caus-

'tic did not accord with my first success. I found that, wherever 'there was a confirmed and hard stricture, its application was little 'more than innocent. I found that, after frequent applications, al- 'though the urgent symptoms were kept under, yet the stricture was 'not destroyed; that, after repeated applications of this caustic, on 'introducing a soft bougie into the canal, the indentation upon it shew- 'ed the stricture to have preserved its firmness; I may even say, its 'sharpness. After several applications of the caustic in Mr. Whately's 'manner, I have found on dissection no trace of its operation on the 'stricture.

'On revolving these circumstances in my mind, and particularly 'considering that this caustic took off the sensibility from the canal 'which is touched, and thereby diminished the irritability of the parts 'but did not destroy the stricture, I set about a comparitive trial of 'the effects of the two caustics, the *kali purum*, and the *argentum 'nitratum*.

'I found that, although the alkaline caustic was particularly strong 'when applied to a living surface, and its influence confined to that 'surface, yet, when a small portion of it was inserted into the end of 'a bougie, it became, even during that operation, moist and soft by 'by the absorption from the atmosphere; and that, further when the 'point of the bougie, thus loaded, was dipt in oil, or covered with 'soap, the caustic was rendered mild; and, by the time it was carried 'through the urethra to the stricture, it was little else than a liquid 'soap with a large proportion of alkali.' p. 85, 86, 87.

In the third and last letter we think Mr. Bell has more completely developed the nature of the spasmodic stricture than we recollect to have met with before in any work on the subject. With his attention steadily directed to the foundation of all correct surgical reasoning, he proves to our complete satisfaction the non-musculiarity of the urethra, as we have already observed.

We often hear of spasmodic strictures and spasmodic obstructions in strictures, as if the urethra even though muscular could contract upon a bougie at that part where the stricture is situated. If a stricture exist, the urethra at that part as we have already stated must have lost its elasticity and be in a state of callosity, and of course cannot contract and with difficulty is dilated. We do not resort to the contraction of the fibres of the membrane of the urethra, in order to account for strictures, or the difficulty that we sometimes meet with in introducing a cathe-

ter or bougie when the urethra is preternaturally sensible. An easier explanation may be given, when we consider that five inches of the urethra is surrounded by strong and powerful muscles and that it is the sensibility of the urethra which very much governs the contraction of these muscles. That part of the canal which is anterior to the muscles, cannot have any power of contraction, and therefore we never experience in this situation any difficulty in passing a catheter or bougie from muscular action. This part of the urethra however as we have already observed is the seat of firm and obstinate strictures.

'In the diseases of the urethra, as in other parts of the body, inflammation precedes or accompanies increased sensibility. Where stricture is, there is much increased sensibility; and wherever the stricture is exquisitely sensible, there we are sure to find the function of the muscles deranged, forming the case which is called spasmodic stricture. This spasm is produced by the acrid urine coming in contact with the sensible surface of the urethra, which being inflamed is not embued with its sheating secretion; instantly the muscles are called into action; the ejaculator seminis contracts by impulse, as is its nature when excited; and the other sphincter fibres contract firmly; so there is frequent call, and frequent stoppage, of the urine, with painful contractions of the fibres on the inflamed and excited parts.—This action of the muscles of the urethra does not merely obstruct mechanically the flow of urine, but by the sympathy existing betwixt these muscles and the *detrusor urinæ*, or muscular coat of the bladder, the contraction of the bladder ceases.

'Thus, out of a party of men drinking together, there will often be one who before evening cannot pass a drop of urine. On inquiry, you will find that he has had slight disorder in the urethra, perhaps the remains of gonorrhæa. It is a mistake to suppose, in such a case, that the fulness of the vessels has closed the passage to the urine; the same cause which has inflamed his countenance adds to the inflammation and sensibility of the urethra, and the first drop of acrid urine is followed by contraction and spasm, and obstruction.

'I trust you will now entertain no doubt that the apparent changes in the stricture of the urethra are attributable to the disorder of the neighbouring muscles, muscles which surround the stricture, if it be seated within five inches of the bladder. But the subject is further worthy of your utmost attention.

'There seems to be no stricture without more or less accompaniment of inflammation. This is the reason why strictures are so seldom stationary; for, being originally produced by inflammation, the conti-

‘ nuance of inflammation, even in a slight degree, increases the stricture.
‘ This also explains why a stricture becomes progresssively worse, and
‘ why it returns after the apparent cure of it by the bougie. p. 133, 4-5.

There is reason to believe that the greatest sensibility of the urethra is posterior to the stricture, but we do not admit that it is confined entirely to this part. The force which Mr. Bell must exert to pass the ball probes beyond any considerable stricture is quite enough in our opinion to make a patient complain not a little of pain when it is effected, and therefore of itself not by any means conclusive. As fistulæ in perineo generally take place posterior to strictures, there no doubt must be the most inflammation and sensibility. This we think has been demonstrated upon inspection, and might be inferred as a consequence of the difficulty which the urine must there meet with the spasmodic stricture then very much depends upon this exquisitely sensible state of the urethra, and to remove which it may be necessary to introduce the caustic bougie. If a common bougie be introduced in a case of this kind, it may pass through the stricture, and then be so closely embraced by the urethra that it will not pass into the bladder, but the caustic by taking off the sensibility of the canal and thereby lessening the irritability of the muscles will enable us to pass a large bougie without pain or difficulty into the bladder. In such cases we think with Mr. B that it acts as a charm, and to illustrate further its powers of lessening irritation, we quote the following.

‘ To understand the effect of caustic in subduing irritation in the
‘ urethra, in cases of the stricture, we may take the following conclu-
‘ sive example. If a man has an ulcer in the pellucid cornea of the
‘ eye, the ulcer keeps up a great deal of inflammation and irritation in
‘ the whole eye ; but if we apply caustic to the bottom and tender
‘ part of this ulcer, the irritation and inflammation of the eye quickly
‘ subsides. When we examine the circumstance of this case, we find
‘ that the ulcer is highly irritable, and that the acrid tears flowing into
‘ it are a principal cause of the continuance of the disorder. The touch
‘ of the caustic deadens the surface; then the tears are no longer a
‘ cause of irritation, and general inflammation and pain therefore sub-
‘ side. The effect of the caustic applied to the eye in this manner is
‘ however only temporary ; the surface touched by the caustic is thrown
‘ off, and exposes a sensible granulating surface ; the tears now hav-

'ing access to this new surface, the pain and irritations return in a 'certain degree : a touch of the caustic again destroys the sensible 'surface, and, before it be again exposed, the hollow of the ulcer is 'nearly filled up, and a healthy or a more natural state of the part is 'substituted for the eating sore. Several such gentle applications 'of the caustic do not prevent the ulcer from filling, and a cicatrix at 'length forming.

'The application of the caustic to the urethra has an effect very 'similar to this. This stricture is exquisitely sensible. and, when the 'urine comes in contact with it, there is such an excitement as is ne- 'cessarily attended with spasm. The first effect of the caustic is to 'destroy the sensibility, and then the urine passes without exciting 'spasm. In explanation of the circumstance that the caustic has not 'always this effect of subduing spasm and irritability, let me observe 'to you, what is too little attended to, but which I have no doubt you 'will at once allow to be just ; that, if only the fore part of the stric- 'ture is touched by the caustic, the principal source of irritation re- 'maining behind the stricture, the patient will find no relief. You 'may perhaps say that the caustic is in no instance applied to the back 'of the stricture, and that still the irritation is subdued. I have lit- 'tle hesitation in answering, that often the caustic does more than the 'surgeon intends, and that by dissolving and flowing through the stric- 'ture it diminishes the sensibility of the surface in the whole extent of 'the disease. p. 139, 140, 141.

We have often heard Mr. Bell accused of writing too much, but we do not presume to give an opinion on this point. The little volume before us is far from being destitute of merit ; in fact we conceive it entitled to a rank among the first practical works on the subject. It will not, we are aware, supercede the more extensive one of Mr. Home ; but the practical illustrations which it contains, founded as they are upon the basis of Anatomy, will always, we conceive, be appealed to as rules of practice. We are happy to find that it has received an American dress, and from its cheapness, will be likely to have an extensive circulation, among those, who perhaps, only have heard of the more extensive work of Mr. Home.

ESSAYS AND CASES.

I.

Memoir on Uterine Hæmorrhage, by **William Moore, M. D.** *President of the Medical Society of the county of New-York.*

Read before the Medical Society, October 4, 1813.

No disease to which women are liable, excites greater alarm, or is attended with more danger, than an hæmorrhage from the Uterus, when it occurs during the latter months of pregnancy, and is so profuse as to be styled a *flooding*. But it has been found from experience, that all such cases of flooding, although apparently similar at their commencement, are not in reality equally dangerous; for in some, even when left entirely to nature, or only treated by palliative remedies, the flooding abates as soon as labour pains commence, and the patients are happily delivered by the efforts of nature; while in others, every contraction of the Uterus, and the slightest labour pains increase the flooding to such a degree, that the patients will inevitably die undelivered, unless timely assistance be afforded by art.

This being the case, it therefore becomes of the utmost importance in the treatment of this disease, to be possessed of some *practical criterion*, by which we may determine early, in every case that occurs, whether it be of that kind, which may be safely trusted to palliative remedies and the efforts of nature; or whether it will ultimately require the assistance of art. In the one case we shall be induced not to interfere where it is unnecessary; while in the other, it will become our duty to deliver the patient as soon as it can conveniently be effected, and before she is so far exhausted by loss of blood, as to render the assistance of art unavailing.

A criterion of this kind was attempted to be established some years ago by Mr. Rigby, a surgeon of eminence in England, in a pamphlet which he published upon uterine hæmorrhage. And I think the attempt was not without success; for, ever since having read his essays, I have practised upon his plan, with much satisfaction to myself, and, I trust, with advantage to my patients.

Mr. Rigby divides all floodings, that occur in the latter months of pregnancy, into *accidental* and *unavoidable.*

Accidental floodings are such as happen when the placenta has been attached to any other part of the uterus than over its mouth; unavoidable floodings occur when any part of the placenta is over the mouth of the womb. And he asserts, that all accidental floodings may be safely trusted to palliative remedies and the efforts of nature, while every case of unavoidable flooding will require delivery by art.

The criterion in question, therefore, which is to regulate our practice, is, to ascertain, as early as possible, *whether or not any part of the placenta be over the mouth of the womb.*

It is to be observed, however, that in the commencement of every case of flooding, whether accidental or unavoidable, the palliative remedies are to be employed with equal assiduity; but in the latter case, they are not to be solely confided in after the os internum is so far relaxed as to admit the hand into the womb, and delivery by art becomes practicable.

The remedies, which Mr. Rigby calls palliative, are those generally employed to restrain uterine hæmorrhage; such as, strict rest of body, composure of mind, a hard bed, light covering, fresh cool air, cold applied to the external parts and within the vagina by means of cold water and ice, anodynes, astringents, &c. but more especially the *rupturing of the membranes.* Upon this he lays great stress, and recommends it to be performed as soon as it can be effected, after it has been ascertained that the membranes alone are covering the os internum. This, by suffering the waters to escape, produces a contraction of the uterus, which diminishes the mouths of the bleed-

ing vessels, and presses them firmly against the body of the fœtus, and thus moderates the flooding, and sometimes suppresses it altogether; while the accession of labour pains is thereby hastened, and the woman is safely delivered by their means.

With respect to bloodletting, as a remedy in uterine hæmorrhage, we may observe, that, as no flooding of consequence can happen in the latter months of pregnancy, but what must proceed from a partial or total detachment of the placenta, it is evident that the hæmorrhage in these instances will be of the passive kind; and that, therefore, bleeding cannot be a proper remedy where the flooding is at all alarming, or has continued for any length of time. But, at the commencement of the complaint, where the discharge is moderate, if we shall judge from the strength of the patient's pulse, her florid countenance, and other marks of plethora, that she will bear the loss of more blood with advantage, it will be best to take it from her arm, and to endeavour, by every means in our power, to stop the discharge of blood from the uterus as soon as possible.

Some practitioners lay great stress upon plugging the vagina with lint, tow, rags, &c. so firmly as to prevent the egress of blood, which accumulating and coagulating about the mouth of the womb may tend to suppress the hæmorrhage. This is, no doubt, a very proper remedy, and under some circumstances may be productive of the happiest effect;—but, whenever the flooding, by its frequent recurrence, or profusion, becomes in the least alarming, our first care should be, to ascertain precisely by what part the mouth of the womb is covered. This can only be done by introducing the hand fully into the vagina, so as to get one or more fingers within the os internum.

If the head shall be found to present with nothing interposed between it and the fingers except the membranes, they must be ruptured as soon as they are sufficiently tense, and the delivery may then be safely trusted to nature; but if the placenta shall be found covering the mouth of the womb, and this is sufficiently relaxed to suffer the hand to

pass with ease, whatever part of the child presents, it will be best to deliver the patient as speedily as possible, by passing the hand through the placenta and membranes, turning the child, and bringing down one or both feet.—Here I must take occasion to remark, that I am never very solicitous to find both feet when one is readily come at, since I am persuaded that we are quite as likely to save the child when delivered by one foot, as by both feet brought down together

Whenever it has been ascertained that the placenta presents, but that the os internum is still so thick and rigid as not to suffer the hand to pass into the womb without using great violence, it will be proper to postpone the delivery until the parts are somewhat more relaxed, which they very soon will be, if the flooding continue. In a case of this kind, plugging the vagina firmly, so as to prevent the escape of blood, may produce the happiest effect; for by accumulating the blood in the vagina and about the mouth of the womb, it will tend to soften these parts, and thus hasten the period when the delivery may be effected with ease. And, it will always be found that the sooner the delivery is effected after it can be done with tolerable ease, the better it will be for both mother and child.

After we have once assured ourselves that the placenta is attached to the mouth of the womb, if it shall be thought proper to postpone the delivery, the patient ought to be watched with the strictest attention; and, even though the flooding should cease entirely, she ought never to be left in a situation where assistance may not be immediately had when it becomes necessary; for it is most certain that the flooding will return whenever the womb shall begin to contract; and sometimes it recurs with such violence, that the delay of a few minutes may be productive of the most fatal consequences.

Before I conclude this paper, I must request permission of the society to detail to them the result of my own experience in this disease, since I began to practice upon Mr. Rigby's plan.

Of forty three cases of uterine hæmorrhage, which com-

menced at different periods during the three last months of pregnancy, twenty-eight were *accidental* and fifteen *unavoidable.* In the accidental cases, twenty-six mothers recovered, and two died ; one of them died a few hours after she had produced two fine boys, both of whom did well. They were all delivered by the efforts of nature, except two ; in one of these the child was turned and delivered by the feet, partly on account of the flooding, but chiefly on account of the protrusion of the umbilical cord : the mother did well, but the child was dead. In the other case, as the labour was unusually protracted, the delivery was effected by the forceps, and both mother and child did well. Of thirty children brought forth by these twenty-eight mothers (for two of them had twins) sixteen were born alive.

The fate of the fifteen unavoidable cases was more unfortunate ; for of these, there were five that proved fatal to both mother and child, three which proved fatal to the mother alone : four which proved fatal to the child alone ; and three in which both mother and child did well. They were all delivered by art except two ; in both these cases the margin only of the placenta was over the mouth of the womb, and when the membranes were ruptured, the head was immediately forced down into the pelvis by labour pains, which restrained the hæmorrhage, and the patients were happily delivered by their means.

From the above statement of facts, we may draw the following conclusions ; first, that of all the flooding cases, which occur in the latter months of pregnancy, about two thirds are accidental, and may be safely trusted to nature, as the mothers generally recover, and a majority of the children are born alive. Secondly, that the other third are unavoidable ones, which prove fatal to about one half the women and children, who are so unfortunate as to be the subjects of them.

I know not whether the practice of others may lead to the same conclusions ; and I hope my own will, in future, be productive of a more fortunate result ; for, upon reviewing what has past, I think there are some cases on my re-

gister, which proved fatal, where the event might possibly have been different, if the patients had been sooner delivered.

II.

Mémoire sur la ligature de l'Epiploon, par M. PIPELET, *From the Mémoires de l'Academie royale de Chirurgie.*

Translated for the New-York Medical Magazine, by
HENRY U. ONDERDONK, M. D.

The most ancient authors knew that the omentum exposed to the air in a wound of the abdomen, or strangulated in a hernia, would become cold and livid, and would mortify; and that in this condition it was improper to reduce it, without having cut off all that might be altered or corrupted. This rule induced that of making a ligature on the omentum, whose numerous blood-vessels would, without this precaution, yield a profuse and dangerous hæmorrhage. After Galen, who practised tying the omentum with success, all authors to the present time have been forward in recommending it. We cannot deny but that such ligature has been frequently made without inconvenience, but we have also many Observations on its evil consequences.

I am aware that the mere good or bad success of the cases in which the ligature has been employed, or omitted, proves nothing, inasmuch as the event may have depended upon many causes, with which the use or omission of the ligature had no connexion. But if those who have made observations, have attended to several essential circumstances,—such as the condition of the omentum on which the ligature was made, whether it was sound or withered, cold or inflamed, in large or in small quantity; if they have paid attention to the proximity or distance of the parts to which the omentum is attached; if they have well understood the

cause of the different disorders which have extended to these parts, by communication of vessels or continuity of membranes ;—we cannot reject inferences thus made. On these principles, I propose to examine strictly the facts and doctrines promulgated concerning ligature of the omentum.

The most obvious case is, when the omentum passes out through a narrow wound, in which it is either completely strangulated, or only so much confined that it cannot be reduced without dilating the wound by an incision. Modern surgery teaches us avoid this dilatation if possible, and to leave the omentum in the wound, if no particular circumstance require its reduction. Whilst some direct that we make no ligature upon it, but that (having ascertained that no portion of intestine is enveloped in it) we should cut it off on a level with the skin;—others disapprove of this method, lest the edge of the omentum should return into the abdomen in consequence of the restlessness of the patient, and lest its divided vessels should bleed within that cavity ; which would indeed be very dangerous. The portion of omentum strangulated in the wound and exposed to the cold external air, is not long in becoming withered ; and when its circulation is checked, which soon happens, I believe there is no risk in cutting it off. I should however prefer using a ligature ; it will hasten the falling off of the useless portion ; and in the event of a return of the omentum, by the motions of the patient, the it will prevent all communication between the portion that is to slough, and the sound parts. Besides the ligature on a level with the edges of the wound, cannot of itself produce any bad effect, being made externally on a part deprived of heat and life (moovement).

Hiccup and vomiting denote dragging of the stomach by the strangulated omentum. We must not, however, when these come on, decide rashly upon dilating the wound in order to its reduction. M. Louis (le pere) has communicated some judicious remarks on this subject, of which the following is a summary.

A lad eighteen years old, plunged a table-knife into his abdomen, close to the navel on the right side. M. Louis

could not visit him until two hours after. A portion of the omentum cold and withered hung out at the wound; the belly was remarkably tense; fever, nausea, and vomiting had already come on. These symptoms, if they had depended on a dragging of the stomach, would have required an enlargement of the wound, in order to reduce the omentum. But from the situation of the wound near the umbilics, the certainty that the displaced portion of omentum was its extremity, and having observed in several other cases, that nausea and vomiting followed wounds of the abdomen without protrusion of the omentum, M. Louis inclined to the opinion that the irritable condition* of the stomach was induced by sympathy with the spasm and irritation of the wounded part, and not by any dragging upon that organ He did not however determine to leave the omentum unreduced on the mere supposition that strangulation was not the cause of these symptoms; he caused his patient to try different positions by which he might ascertain whether the *dragging* had taken place; but a complete extension of the trunk having produced no pain, it was determined to leave the omentum in the wound. This practice is less painful, and does not generally leave the patient exposed to ventral hernia. Bleedings, emollient fomentations, glysters, and a suitable regimen, moderated the symptoms, and forwarded the uniting of the wound, which took place in a short time; the portion of omentum below the ligature having been cut off.

The position which was tried in order to ascertain whether the symptoms arose from a dragging of the stomach, would also assist any manual attempt to reduce the omentum. Paulus Ægineta, in wounds of the abdomen with protrusion of the intestine, recommends, after dilatation of the wound, that the patient incline backwards, if the injury be at the lower part of the abdomen; if at the superior part, that he bend forwards; and when the wound is in the side, that he lean to the opposite side.

The late M. Martin has left an Observation, which shews

* Agacement, setting on edge—a very expressive term.

how attentive we should be to sympathetic symptoms in wounds of the abdomen. A man received a wound in the right hypochondrium, out of which passed a portion of the omentum of the size of the fist, M. Martin returned it; but this reduction, repeated bleedings, and every means proper in such a case, afforded no relief to the vomiting, which was the first symptom after the wound. A hiccup came on the third day; fever increased every night. The eighth day, the symptoms began to abate, and by proper remedies they were all removed, except the hiccup, which was almost constant, and which became more violent as the other symptoms disappeared: it increased so much that the patient was several times in danger of suffocation from the interruption of the respiratory motions. A number of quieting and sedative medicines were tried without success: at length M. Martin, seeing the hopeless condition of his patient, prescribed for him on the evening of the twelfth day, ten grains of camphor for a dose. The man was very restless through the night; the hiccup tormented him till five in the morning, when it began to diminish. At seven he fell asleep, and after some hours of slumber he awoke entirely free from hiccup. If the omentum had been left in the wound, to its charge would doubtless have been laid all the successive symptoms produced by the convulsive irritation of the diaphragm.

The rule most generally adopted in this operation, is to draw out the omentum far enough to see the sound part, for fear of making the ligature too low and on the altered portion. But if we recollect the delicate fabric of the omentum, we shall perceive that this rule cannot be followed in the greater number of cases. We know with how great caution we must handle this membrane, if we wish to succeed in inflating it for anatomical purposes; so readily is it torn: there must be equal risk in drawing it out when the protruded portion is cold and livid. Even then the ligature cannot be applied, without bad consequences, except a little above the portion seen externally. But if the part, which is to be constricted by the ligature, is inflamed, can we expect a favourable event? There would be much

less danger, if the ligature were made on a part of the omentum not capable of recovery by the warmth of the intestines. It is perhaps in such cases, that it has succeeded. What most practitioners perform only through necessity, has been prescribed with dogmatical confidence by one of the best surgical authors. Fabricius ab Aquapendente says, when a portion of the omentum protruded through a wound of the abdomen, becomes cold, black or green, that it must be tied just upon the warm portion, and the corrupted portion cut off. I could shew the bad effects of ligature upon the omentum by many facts which I have observed in the hospitals, I shall however only cite the following cases.

I performed the operation on a man thirty five years of age, who had a bubonocele with every symptom of strangulated intestine. The tumour however consisted only of a large portion of omentum, which was of a reddish livid hue. Believing that this considerable mass could not be returned to the abdomen without great danger, I determined to apply a ligature upon it at the level of the ring, and to cut off all below. In spite of every attention, the hiccup and vomiting continued; the pulse became weak, cold sweats broke out, and my patient died in thirty six hours from the operation. It is not probable that the omission of the ligature would have saved this person; but its application could certainly contribute nothing to the relief of the symptoms. On opening the body the omentum was found gangrenous, and the stomach and intestines in a state of inflammation bordering upon mortification.

M. Pouteau (le fils) has sent to the academy a case similar in its event, but in which the evil effects of a ligature were very singular. After having performed the operation for hernia and reduced the intestine, he thought it best to tie the omentum, on account of its great bulk; which would have required too intensive an incision of the ring for its reduction. The patient was immediately relieved from the symptoms of constricted intestine: but he soon complained of pain in his stomach (ventre), and although every assistance was rendered, he died thirty six hours after the operation, of gangrene of the omentum, as

was seen on examining the body. The bad effects of ligature were so evident in this case, that M. Pouteau has changed his practice, and with advantage.

The above bad consequences may be attributed to the inflammatory disposition of the omentum, or to the mass of it included in the ligature ; there is equal danger when only a small portion is tied, as the following case will shew.

M. Dupont found, after an operation for an entero-epiplocele, a portion of the omentum (a pound in weight according to his estimation) which was beginning to putrefy. He reduced the intestine and retained the omentum in the wound ; the patient was doing well, and a large portion of what must have been included in the ligature, had one been applied, returned of its own accord. On the fourteenth day, the suppuration had detached all the dead part, and there only remained at the ring, a piece of the size of a quill, and half an inch long. M. Dupont hoped that this remnant would have healed even with the external cicatrix ; but instead of becoming depressed, it gradually projected to the length of two inches and a half.

M. Dupont, on the twenty seventh day, applied a ligature on this little protrusion. Two hours after, the patient had nausea ; in four hours, he vomited the drink that had been given him ; M. Dupont being called eight hours after the dressing, suspended the use of all food for four and twenty hours, and prescribed for his drink, lemonade (un peu chargée), which was to be given in small quantities at a time. The inclination to vomit ceased in twenty four hours ; doubtless because the tied portion of omentum having become withered, this membrane was no longer irritated by the ligature. The disadvantages of a ligature are fully shewn in this case ; the portion tied was trifling, and its having remained in the ring for twenty seven days without any inconvenience, proves that it is erroneous to suppose, that the symptoms following a ligature arise, not from constriction, but from the mere presence of the tied portion in the ring or wound.

Authors have expressly recommended returning the omentum after it has been tied, but the ligature will al-

ways be dangerous if the membrane be inflamed. We have just seen the disorder produced by tying a small portion which might have been safely cut off. Some experiments which I have made, will confirm what cannot be fully learnt in practice, from our being so limited in the number and variety of our observations.

M. Louis and myself made several experiments upon dogs. Most of them exhibited signs of sensibility when the ligature was tightened, a circumstance which is worthy of note. The omentum being tied, and the portion below being cut off, we returned it into the abdomen, with the precaution mentioned by authors, of shaking the animals a little, in order, as they say, to spread it out over the bowels; as if it could be spread while it is tied together. The strongest dogs seemed to be in pain for two or three days; they did not walk about, and ate little. Some had vomiting for only one day. Those in whom the omentum was left in the wound without ligature, and even those in whom the omentum was rudely handled and afterwards returned without ligature, did not lose their appetite; their ordinary activity seemed but little impaired on the first day, and afterwards they performed all their functions. I am satisfied that the disorders of the former did not arise from dragging of the omentum, nor from its lying in the wound, as this did not occasion them in other cases where it was not tied. To the ligature therefore must all these evils be attributed. It came away usually on the seventh or eighth day; the omentum left protruded without ligature came away in portions, and was not completely cast off till the fifteenth or eighteenth day. I kept all the animals on which I experimented, until the wound was perfectly cicatrised, and they all seemed to continue healthy. I then killed and examined them. The omenta which had not been tied were all found in their natural condition, excepting an adhesion to the peritoneum at the place of the wound; but it was simple adhesion, without hardness or other morbid condition. When the omentum was tied and reduced, the same adhesion to the internal part of the wound took place; but in all these cases, it was found

degenerated at the place of ligature, into an indolent callous substance of the size of an egg, or smaller, according to the quantity of omentum tied. This tubercle, which we thought to be merely schirrous, contained within it an abscess, filled with a thick pus of a white or greenish appearance. This was not owing to a peculiar habit in some of the animals, it only followed the use of the ligature, and was observed in *all* whose omenta were tied.—Such are the bad consequences of a ligature; they show themselves very gradually, and when we feel entirely secure as to the event. I would not indeed oppose these experiments to observations which attest perfect cures after the omentum has been tied. Perhaps in such cases the strangulated portion may have been in a favourable condition; its circulation may have been suspended in the portion on which the ligature was applied; and to this the patients may have owed their safety. These cures can only be reconciled to the facts I have adduced, by supposing some such favourable condition; moreover, such success is not sufficiently established by experiment, and the cases of it bear no proportion to those of failure.

M. Recolin has informed me of an operation performed at Montpellier by M. Lamorier. A man aged twenty, had a tumour, apparently a hydrocele, for which M. Lamorier undertook the radical cure. The incision being made, he discovered the omentum filled with hydatids. He applied a ligature as high as possible, and cutting off all below, found it to weigh four ounces and two drams. Although the disposition of this membrane did not appear to render it susceptible of inflammation, the operation was followed by considerable fever, tension of the abdomen, and a suppression of urine, which endangered the life of the patient. Bleedings and narcotics were prescribed, and for several days the patient could void his urine only an hour after taking laudanum; it was attempted to lengthen these periods, but the pain which was felt in the hypogastric region, made a recourse to it immediately necessary. The patient however recovered.

What we have adduced concerning the bad effects of

ligature of the omentum, will be sufficient to induce us to reject it as dangerous practice. Many celebrated surgeons have rejected it already. The late M. Gunz and Mr. Sharp recommended unfolding it,so that the corrupted portion might be cut off with scissors, near the sound ; and to dry up what remained of the altered portion with essential aromatic oils. Fabricius ab Aquapendente gives a method which must evidently be useless, as the ligature is not made on the sound part of the omentum. The ligature draws together a membrane which should be spread out, floating freely upon the intestines. Celsus does not mention tying the omentum ; *we must*, says he, *examine it, and cut off with scissors the part which is unsound, and replace that which is sound.* When the unsound portion extends within the abdomen, this operation is impossible ; but a ligature in this case could be of no avail ; and we have shewn the danger of drawing the omentum further out to get at the sound portion.

There is often found in hernia, a portion of the omentum not altered in structure, but merely so much enlarged in bulk, that its reduction is impracticable. M. Dupont's case proves that it will afterwards return, at least in part. Why then cut off a part that may be saved ? there is danger if we tie it ; and the symptoms which follow adhesion of the omentum, shew the necessity of reducing this membrane as completely as possible.

M. Guerin saw in the hospital of La Charité, a large portion of the omentum threatened with gangrene, which had been tied in an operation for hernia. The wound was healed in five weeks, but the patient vomited every mouthful he ate. He was reduced to the necessity of eating in bed, with his thighs and legs bent. This can only be accounted for, by the adhesion of the omentum to the ring, which confined the stomach whenever it was filled with food, and which was relieved by the above posture. This inconvenience may arise from being over anxious to keep the lower extremity flexed after the operation.

M. de le Faye examined the body of a female who had been operated on for hernia several years before ; since

which she had been in bad health, and her stomach disordered. The omentum adhered to the ring, and the stomach was situated almost perpendicularly, and looked like a very large intestine.

In the memoirs of the society of Edinburgh, is a case somewhat similar, of loathing of food and atrophy, caused by a displacement of the stomach by an omental hernia, which was found to weigh four or five pounds.

These cases shew the necessity of an exact reduction of the omentum, unless the long standing of the hernia gives assurance that no dragging of the stomach will follow.—But when reduction is necessary, if it is also proper to cut off a portion of the sound membrane, shall we dispense with the ligature ?

The only object of a ligature is to prevent hemorrhage. M. Caqué asserts, that in nine different operations, he cut off the omentum in the sound part, without using a ligature, and without any accident.

The omentum immediately above the cold and livid portion, is not always free from alteration, although apparently sound ; cutting in this will not produce bad consequences. But when the moisture and warmth of the membrane, and the florid colour of the blood in its vessels, shew that circulation has not stopped in the part which is to be cut,—we should retain the divided edge in the ring for one or two days, arrest the bleeding by touching the vessels with spirit of turpentine, and then the reduction may be made without risk. A proper position should be maintained in order to prevent adhesions, which might otherwise occur in spite of the most exact reduction.

The number of facts which the above memoir contains, illustrative of its important subject, compensates for its prolixity, and even for its contradictions. And although M. Pipelet has not supported his plan either by argument or experience, it is perhaps as deserving of a trial as any other ; for surgeons have found such different results of the

same methods, that no rule of practice can be grounded upon their authority.

Mr. Pott's practice is thus summed up,(vol 2,p. 133.) "I will not pretend to say, that there never was a dangerous or fatal flux of blood, from the division of the omentum, without ligature ; but I can truly say that I never saw one ; that I have several times cut off portions of it, without tying, and never had trouble from it of any kind, though I have always made the incision in the sound part."

M. Le Dran (p. 99.) when the omentum is protruded in some quantity, or if the quantity be small but adherent, leaves it in the wound, trusting to its spontaneous return.— If the omentum be gangrenous, he makes a ligature on the whole of it, and cuts away the unsound parts.

Mr. Hey, (2d edition) in several cases followed the same methods with Le Dran ; in one case he left the omentum in the wound till a part of it had sloughed, and then gradually compressed it with successive ligatures till it was cast off. He advises, however, to secure the individual vessels, whenever it is found necessary to cut off a part of this membrane.

Mr. B. Bell, (vol. 3, p. 12, Troy edit.) recommends cutting off the altered portion of omentum, and tying any vessel from which the hemorrhage is troublesome.

Mr. C. Bell (vol. 1. p. 380) and Mr. Lawrence (p. 180) follow the same plan.

Mr. A. Cooper also adopts the latter practice. An extract from notes of his lectures taken in 1810, will best explain his ideas. " If a vessel of any size bleed, it is to be secured by a fine ligature ; if the vessel be very small, it may be drawn out a little with the forceps and left to itself. The portion of omentum remaining is not to be entirely returned to the abdomen ; the stricture is to be divided, and the edge of omentum left in the wound, forming a sort of plug to prevent a future de[illegible]."

The weight of authority is certainly in favour of tying the separate bleeding vessels. Perhaps it would be advantageous to unite this plan with that of M. Pipelet ; to tie the separate vessels with a single knot, to leave the edge

of the omentum in the wound for twenty four hours, and then to remove the ligatures,separate the soft adhesions,and return the omentum. This period is sufficient to establish the adhesive process in the ends of the vessels. The position of the patient should be such, that the new adhesions, which the omentum will form within the abdomen, may occasion no dragging upon the stomach.

III.

Case of Painful Affection of the leg, with the dissection Communicated by Dr. James Gilbert of New-Haven, in a letter to Valentine Mott, M.D. &c.

A man 36 years old, received a wound with an axe, in the instep ; beginning over the tendon of the tibialis anticus, where it passes under the annular ligament, and extending about an inch downwards and outwards. There was not much hemorrhage, the wound healed without difficulty, and he thought no more of it.

About six months after, as he was carrying a heavy burden, he felt something give way in the scar. From that time he complained of tenderness in the scar, and pain darting up the leg, which soon became so frequent and severe as to to confine him to his house. At this time (about two years ago) I saw him for the first time, and advised him to apply caustic alkali to the scar, and produce free suppuration. Relief was afforded for some time by this ; but soon after healing the sore, the same symptoms returned. I saw him but seldom as he lived twenty miles from me.

About six months after this, I was called to see him and and directed to come perpared to amputate his leg. I found him confined to bed ; pulse small and weak ; scar exquisitely sensible to the slightest touch ; and spasm darting from it to his neck, producing, while it lasted, appearances similar to those of tetanus ; a confused distress in his head, and a sinking, dying, sensation at his stomach. He

thought himself dying the night before, as did also his attendants. Essential oils and a great variety of other stimulants had been applied to his leg, and especially to the scar, without benefit; and he had been kept under full doses of opium and old madeira. I objected to operating partly on account of his debility, and partly to try some further remedies, and to summon a fuller council.

I saw him again in a few days, he had remained much as I left him. It was the unanimous opinion, that he must die unless he had speedy relief, and that we knew of nothing which promised relief, unless the offending part was amputated: something was said about incisions, division of nerves, &c. I amputated so as just to save the flexor tendons of the leg.—The spasm ceased.

On examining the leg after the operation, a subcutaneous nerve (the fibular), from the scar to the place divided by the amputating knife, appeared nearly as large as a goose-quill. The tibialis antica artery was obliterated under the scar, but open above, terminating in a *cul de sac*. Nothing further was unnatural.

The stump, owing partly to want of care, became after a few days, cold as death, œdematous, and tending to gangrene: and was brought to a better state by the most stimulating applications. It was nearly a month before either of the ligatures came away, although the naked artery was tied; such was the want of action. When the stump was nearly healed he had a pneumonic affection, for which he was bled and recovered. Spasm now began in the stump, in the situation of the head of the fibula, with symptoms similar to those before amputation, but not so severe. He walks out, but is unable to attend to his business, and is unhappy. He has taken cicuta, and various narcotics have been applied externally. I had an idea that the nerve might be paralysed with preparations of lead. Would amputation above the knee relieve? would dividing the fibular nerve? the disease appears to me to be allied to tic douloureux.

I am with much regard, your friend, &c.

JAMES GILBERT.

IV.

Case of disease, consequent to a fracture of the skull, by LEWIS HEERMANN, *Esq. Surgeon of the U. S. Naval Hospital, New Orleans.—Communicated in a letter to Valentine Mott, M. D. Professor of Surgery, &c.*

A man named Sheerman was committed to my care on the 25th of December 1810, from the U. S. Frigate President, with chronic rheumatism. He was represented by Dr. Trevet, surgeon of the ship, to have been subject to a variety of diseases; so that he was considerably reduced, but at present in better health than he had commonly enjoyed. He continued under my care until the 19th. of February, with little alteration, when, in the evening, he was attacked with chills, succeeded by slight fever and a most severe headach. He took a mercurial cathartic, but on the following day, though free from fever, he was not at all relieved, from the headach, which he described by saying—" his scull cap he believed would fly off, and leave the rest of his head behind ;" his pulse was small and trembling; a blister was therefore applied to the neck, and a saline cathartic prescribed. But the debility so much increased, that it was thought prudent to postpone the exhibition of it, until an alteration of symptoms should justify the continuation of purgative medicines; he was directed to take the aqua ammoniæ acetatæ. In the evening he had another and scarcely perceptible chill; and he continued to complain of an almost constant recurrence of them on the third day. His restlessness very much increased, he was occasionally delirious, had a constant grating of his teeth, and his eyes were morbidly sensible to the light. The blister not having drawn well, it was repeated. For a short space of time the spasmodic symptoms were suspended, and the mental faculties appeared to be recalled to a regular exercise of their functions. His debility however evidently in-

creased, and he relapsed into a delirium, which ended in perfect coma. In this state of suspended sensation and volition he continued, without the possibility of rousing him, for eight days, whilst his skin at the same time was loaded with the most profuse perspiration, and his stools which were procured only by purgatives were voided involuntarily. This general torpor, and the insensibility of the retina to a strong light, manifested by dilated pupils, and an absence during the first 5 or 6 days, of every other morbid symptom, as learned from the tongue, the temperature of the skin, the fullness, frequency, or resistance of the pulse,—induced me to believe than an effusion was going on upon the brain. And coupling these anomalous occurrences, with a fracture of the os frontis, he had received two years before this time, which had rendered him subject to epileptic fits ever since, and a gnashing of the teeth when asleep,—I was induced farther to believe, that some organic disease might have laid the foundation of his present illness ; and that it was excited by several days indulgence in ardent spirits, from which for a long time previously he had entirely abstained, having found that it always distressed his head. I suggested my ideas and the reasons on which they were founded, to some of my medical friends, and concluded to have trephined him at the fracture, if a concurrence of opinion on their part had justified it. They unanimously consented to the possibility of the existence of spiculæ of bone, that might have produced irritation and its consequences : but at the same time recommended me, to consider whether all these symptoms might not be produced by morbid action only, and to treat the case medicinally, rather than to stake my character by performing an operation on such doubtful grounds.

Purgatives chiefly, and mercurial inunction were therefore persevered in, and in addition to the employment of calomel, which was rubbed into his gums, antispasmodics, wine, and cordials, were occasionally exhibited, to arrest the small portion of vitality, that appeared every moment on the wing. Blisters were also again applied to his head and neck, and sinapisms to his feet. On the

seventh and eighth day, his tongue and gums were covered with brown sordes, the exhalation from his body, his breath and his excretions were highly offensive, his perspiration flowed profusely ; and his mind, as above observed, continued locked up in sleep. His cheeks were now occasionally flushed : and his pulse altered very irregularly and very quickly in the course of the day ; but there appeared to be a slight remission in the morning. He was now considered as a typhus patient, and the treatment, with immaterial alterations, was continued.

On the 9th, 10th, and 11th days, his gums were slightly mercurialized, and his mental faculties began to recover by slow degrees. He essayed at last to speak occasionally to his nurses ; but the muscles of the tongue denied him the power of utterance. His countenance likewise became more intelligent, and he began to take notice of surrounding objects. The prostration of strength, however, and the fœtor of his fœces and urine, continued the same, with the exception of the colliquative sweats, which abated at this time ; the exacerbations of symptoms which he had had in the evening were now hardly perceptible. On the 14th day of his disease, his left arm was discovered to be entirely paralytic. His muscular power otherwise increased, since he could by this time raise his right hand, protrude in part his tongue, articulate with less difficulty than before. Camphor, ammonia, opium, and their adjuvants were now laid aside entirely, and a decoction of bark with serpentaria substituted ; and his diet of beef-tea, chicken broth, Madeira wine &c. was continued as before. During the 15th 16th and 17th days, both arms were frequently affected with slight spasm : but his countenance assured the return of health ; and his stomach, stimulated by the wants of the system, craved frequently for food. From this time he got perceptibly better every day ; notwithstanding which, his bowels continued so torpid as to require the uninterrupted use of purgatives to excite them ; and the discharges of which he was not conscious, continued fœtid, sometimes hard and scybalous, and always dark coloured. His power over the sphincter of

the bladder he never recovered; and the urine when recently voided had a highly ammoniacal odour.—In 35 days from the commencement of the disease, he again gnashed his teeth; and manifested other nervous symptoms, from which he was relieved in the course of 5 or 6 days by a succession of purgatives, which unloaded his bowels of a large quantity of hardened fœces.

Having been perfectly immoveable during the whole of his confinement, his hips at the end of seven weeks were excoriated, and these ulcerations from time to time encreasing by alternate inflammation and sloughing, now extended from one trochanter to the other. Upon the sacrum were numerous sinuses; and the effluvia emanating from so extensive a surface, filled with maggots, and yielding so large a quantity of matter always in a state of decomposition, rendered him the most complete spectacle of human misery I ever witnessed.

Both legs had been contracted in the commencement of his illness; and the spine appeared in every part to be perfectly anchylosed; so that there was indeed no part of his body moveable, but his right arm and his head.

At last, exhausted from the continued irritation, and the excessive discharges from his ulcers, he died, after a confinement of 87 days.

On opening his head the first thing that struck the attention of one of the gentlemen present, Dr. Maupin, was a small laceration of the dhra-mater. On feeling it, a spicula of bone could be plainly perceived; its basis had been attached to the cranium, and was broken in forcing off the scullcap. The next thing that attracted our notice, was a much greater quantity of serum between the membranes of the brain than is usual; and on cutting through the dura-mater along the longitudinal sinus, another ossified spicula was observed on the inner surface of the dura-mater, which could not have had any communication with the cranium; it was about an inch, or an inch and a half, above the place where the skull had been fractured; but the larger spicula first discovered, had its origin from the fracture itself. The vessels of the brain appeared

uncommonly dilated, but were not much filled with blood. A large quantity of water was found in the lateral ventricles, and the foramen monroianum was greatly enlarged, and might have admitted a goose-quill with ease. The extremities after death could, with a little force, be straightened, and his back bent; the stiffness therefore of his joints, had been entirely owing to a permanent contraction and rigidity of the muscles.

With indelible sentiments of esteem, your friend,

LEWIS HEERMANN.

V.

Case of total destruction of the right lung in a recruit, communicated in a letter to Valentine Mott, M. D. by JACOB DE LA MOTTA, M. D.

FORT COLUMBUS, November 15, 1813.

DEAR SIR,

Your desire to collect and disseminate useful knowledge, and more especially that appertaining to the important structure of the human frame, has induced me to submit to your consideration the following brief statement of a no less particular than surprising object.

The appearance of the unfortunate individual, whose peculiar situation I shall endeavour to describe, was so singular that it could not possibly escape my observation. I regret much, I am unable to communicate, as I could not correctly ascertain, the minute circumstances attending the incipient affection, (which terminated as you will perceive, in an abscess of the right lung), nor the premonitory symptoms of his indisposition; as well as the period of its commencement and duration; the treatment pursued during the continuance of his case; and the particulars of his affliction and suffering. I trust, however, although imperfect in detail, it will attract a portion of your attention.

About fifteen days past, a man of the name of William Webb, was submitted to my examination, among many recently enlisted soldiers. His first appearance excited in my mind, impressions of astonishment, as he appeared to incline the right superior extremity rather behind the trunk of his body. I directed his coat and under clothing to be removed, and discovered the following visible defects: a manifest depression of the clavicle of the right side; a separation of its articulation with the upper part of the sternum; a pit or vacuity occupying the whole hypochondriac, and a portion of the lumbar regions, of the same side; extending from the axilla to the edge of the sternum, as far as the ensiform cartilage; in depth, within two or three inches of the posterior part of the trunk. Upon a more critical inspection, I found the pectoral muscles, all the anterior portions of the true and false costæ, or in other words two thirds of each rib, to have been completely absorbed, or carried away in a manner totally indescribable; as no external wound but a small scar, made by a enetrating instrument, denoted that any injury had been received. The region in which the lung is usually placed, was, as above observed, unoccupied, and a vacuity formed; the inner and most depending part lined with the external integuments, namely, skin, cellular substance, &c. I noticed particularly that no appearance of costæ anteriorly, was discoverable either to the eye or touch. The cavity of the axilla, and that preturnaturally left by the disappearance of the lung, formed a communication, leaving no traces of pectoral muscle to designate its peculiar situation; and seemed in extension, to meet the commencemeut of the abdomen. The liver had descended, was much diminished, and evident on examination. In a line with the scrobiculus cordis, and four inches from it, was seen a small cicatrix, which marked the situation of an opening made, (agreeably to the words of the man) by a surgeon, as an external passage to an abscess. His respiration was perfectly natural, unattended with an increase of inspiration, and causing no particular sound. The voice clear and distinct, his pulse weak, small, and a little hurried,—the mo-

tions of his heart manifesting a correspondent action.—I deem it proper to observe, that his lower extremities were a little œdematous, which was extending upwards, previous to his departure from the island. The disposition of the man appeared to be placid; and from what I could collect by interrogatories, his propensity for ardent spirits caused him to enlist. It was my intention to have made a more minute inquiry into this case; but certain professional and public duties obtruding on my time, produced a delay, which deprived me of the opportunity,—the man having left the island without my knowledge.

I forbear commenting on the above case. I leave it to the ingenious and speculative, who are more competent to account for the continuance of life, when a part so essential and materially necessary to its support, is subjected to causes capable of producing such disorder and deformity.

Query. May not this case add to the many, that have been adduced to prove, that the functions of one lobe of the lungs is independent of the other, and that one may be removed, without destroying the life of an animal?

I am, Sir, very respectfully yours, &c. &c.

JACOB DE LA MOTTA.

VI.

On Spina Bifida, from the paper by ASTLEY COOPER, *Esq. published in vol. 2. of the Medico-Chirurgical Transactions.*

James Applebee, Baldwin street, Old-street, was born on the 19th May, and his mother immediately after his birth observed a round and tranparent tumour on the loins, of the size of a large walnut.

Mr. Deering, who was her accourcheur, requested Dr. Petch to see the child with him, who informed the mother of the dangerous nature of the complaint, and of the probability of its fatal termination.

On the 22d of June, 1807, the child was brought to my house, and I found that although it had spina bifida, the head was not unusually large ; that the motions of its legs were perfect, and its stools and urine were discharged naturally.

I applied a roller around the child's waist, so as to compress the tumour, being induced to do so from considering it as a species of hernia, and that the deficiency of the spine might be compensated for by external pressure.

The pressure made by the roller had no unpleasant influence on its voluntary powers ; its stools and urine continued to be properly discharged, but the mother thought that the child was occasionally convulsed.

At the end of a week, a piece of plaster of Paris, somewhat hollowed. and that hollow partly filled with a piece of lint, was placed upon the surface of the tumour : a strap of adhesive plaster was applied to prevent its changing its situation, and a roller was carried around the waist, to bind the plaster of Paris firmly upon the back, and to compress the tumour as much as the child could bear.

This treatment was continued until the month of October, during which time the tumour was examined about three times a week, and the mother reported that the child was occasionally convulsed.

When the child was five months old, a truss was applied, similar in form to that which I sometimes use for umbilical hernia in children, and this has been continued ever since.

At the age of fifteen months, it began to make use of its limbs ; it could crawl along a passage, and up two pair of stairs.

At eighteen months, by some accident, the truss slipped from the tumour, which had become of the size of a small orange, and the mother observed, when it was reduced, that the child appeared in some degree dull ; and this was always the case if the truss was left off for a few minutes, and then re-applied.

At fifteen months he began to talk; and at two years of age he could walk alone.

He now goes to school, runs, jumps, and plays about as other children. His powers of mind do not appear to differ from those of other children. His memory is retentive and he learns with facility. He had the measles and small-pox in the first year, and the hooping-cough at three years. His head, previously and subsequently to the bones closing, has preserved a proper proportion to the other parts of his body.

The tumour is kept by the truss entirely within the channel of the spine; but when the truss is removed, it soon becomes of the size of half a small orange. It is therefore necessary that the use of the truss should be continued. When the truss is removed, the finger can be readily pressed through the tumour into the channel of the spine.

January 21st, 1809, Mrs. Little, of No. 27, Lime-house Causeway, brought to my house her son, aged ten weeks, who was the subject of spina bifida.

The tumour was situated on the loins; it was soft, elastic and transparent, and its size about as large as a billiard-ball when cut in half; his legs were perfectly sensible, and his urine and feces were under the power of the will.

The child was taken to a surgeon of eminence, who said that nothing could be done, and that the child would not live more than four or five months, and ordered the swelling to be washed with vinegar and water.

Having endeavoured to push the water contained in the tumour into the channel of the spine, and finding that, if the whole was returned, the pressure would be too great upon the brain, I thought it a fair opportunity of trying what would be the effect of evacuating the swelling by means of a very fine pointed instrument, and by subsequent pressure to bring it to the state of the spina bifida, in Applebee's child.

I therefore immediately punctured the tumour with a needle, and drew off about two ounces of water.

On the 25th of January, finding the tumour as large as before it had been punctured, I opened it again, and in the same manner, and discharged about four ounces of fluid. The child cried when the fluid was evacuated, but not whilst it was passing off.

On January 28th, the tumour was as large as at first. I opened it again, and discharged the fluid. A roller was applied over the tumour and around the abdomen.

February 1st, it was again pricked, and two ounces of fluid discharged.

On the 4th, three ounces of fluid were discharged.

On February 9th, the same quantity of fluid was evacuated as on the 4th ; but instead of its being perfectly clear as at first, it was now sanious, and it had been gradually becoming so in the three former operations.

On the 13th, the same quantity of fluid was taken away ; a flannel roller was applied over the tumour and around the abdomen ; a piece of pasteboard was placed upon the flannel roller over the tumour, and another over the pasteboard to confine it.

On the 17th, three ounces of fluid, of a more limpid kind, were discharged ; the pasteboard was again applied.

On the 27th, the surface of the tumour inflamed ; the fluid, not more than half its former quantity, was mixed with coagulable lymph, and the child suffering considerable constitutional irritation, was ordered calomel and scammony, and the rollers were discontinued.

February 26th, the tumour was not more than a quarter of its former size ; it felt solid ; the integuments were thickened, and it had all the appearance of having undergone the adhesive inflammation.

On the 28th, it was still more reduced in size, and felt solid.

On March the 4th, it was in the same state as on the 28th of February.

March the 8th, the swelling was very much lessened ; the skin over it thickened and wrinkled ; a roller was again had recourse to ; a card was put over the tumour, and a second roller was applied.

March the 11th, the tumour was much reduced ; the skin covering it was a little ulcerated. On the 15th it was flat, but still a little ulcerated.

On the 27th, the effused coagulable lymph was considerably reduced in quantity, and of very firm consistence.

On the second of May, nothing more than a loose pendulous bag of skin remained, and the child appearing to be perfectly well, the bandage was soon left off.

On December the 18th, it was attacked with the small-pox, and went well through the disease.

The skin now hangs flaccid from the basis of the sacrum ; its centre is drawn to the spine to which it is united, and thus the appearance of a navel is produced in the tumour by retraction of the skin.

The pricks of the needles are very obvious on each of the punctured parts of the tumour, forming slight indentations.

January 1810, Hannah Jackman, aged eleven days, was brought to my house with spina bifida, having *an ulcerated state of the skin over it.* The woman had been delivered by Mr. Rosewarn, a pupil of Dr. Haighton's and Dr. H. had seen the child.

Jan. 5th, the tumour was punctured with a needle, and the fluid was discharged.

Jan. 9th, the tumour was filled with coagulable lymph, as was proved by its inflamed appearance, and the firmness of its feel ; the child appeared in great pain, had no stool, and suffered considerably constitutional irritation ; it was ordered a dose of calomel and a glyster.

On the 10th, it had evacuations both by stool and urine, and on the 11th Mr. Rosewarn reported that the tumour was less in size ; that it was still solid ; that the child was considerably torpid, but sucked heartily.

On the 13th, the ulcer in the spina bifida was almost healed, the tumour was flaccid: convulsions, which had begun on the evening of the 11th, had been frequent to the 13th ; the child foamed, struggled very much, and seemed very weak.

On the 16th, my assistant, Mr. Lewis, saw the child, and reported that the convulsions ceased on the 15th ; that the child was much reduced, and that it was costive ; the tumour was nearly level with the surrounding skin, soft, and of a red colour ; it had still a small ulcer on it. Glysters were directed to be given.

Jan. 19th, the tumour had become very small, and but a trifling ulcer remained. The child, however, was convulsed ; its eyes were drawn under its upper eye-lids ; it was much reduced ; it had retention of urine for a day and a night, and was extremely costive ; it had ceased to suck for several days, but began to take the breast again on that morning.

Jan. 23d, the child sucked heartily ; the tumour appeared to contain some fluid in its centre ; the ulcer upon its surface was healthy, and nearly healed.

Jan. 26th, the tumour was somewhat increased ; the child sucked, was free from convulsions, and improved in strength.

February 3d, the ulcer was healed ; the tumour was much reduced, and the child greatly improved in its strength.

The child was again brought to me on the 13th, at which time the adhesive inflammation appeared to be complete. On the 15th of the same month it was seized with convulsions, which continued until the 24th ; its eyes became inflamed on the 13th, and continued so until its death, and it died on the 25th of February.

Inspection on the 27th.—The bones of the cranium were very much separated at the sutures ; there was no hydrocephalus internus ; the brain was unusually soft ; the ventricles contained about six ounces of a limpid fluid, but there were clots of coagulable matter floating in it.

In the preparation which I have, the adhesive inflammation is very complete, so that no cavity is left for the reception of the spinal fluid.

—— Sterney, son of Mr. Sterney, a butcher at Peckham, was brought to me on the 10th January, 1810 ; it

had a very large spina bifida at the basis of the sacrum.

I opened it on the 15th, by the same means as I have before described, and discharged about an ounce of limpid fluid.

On the 17th, I again opened it, and removed about an ounce of fluid, which was a little bloody; the child had been restless and had green stools, which is always a marked sign of irritation in children.

On the 19th, the child had two convulsions; the tumour was opened; the fluid was a little sanious, and the tumour contained some solid matter; the child was much purged, and this was directed not to be repressed.

Two ounces of fluid were discharged on the 24th; and on the 26th, an ounce and an half of fluid was drawn off, and a dossil of lint was applied upon the opening from the spinal canal into the tumour; this was firmly bound down by a roller.

On the 30th of January, 1st of February, 4th, 11th, and 26th, the tumour was opened.

Two ounces of fluid were also discharged on the 27th, and then a piece of sheet lead was placed upon the tumour, lined with lint and covered by a roller.

On February 28th, and on March 1st, and 2d, it was opened.

On the 3d, plaster of Paris was applied upon the swelling after discharging its fluid; this was confined by a roller tightly applied.

On the 4th, it had convulsive twitchings of its hands, and quickened respiration; it was restless, hot, and cried much; half an ounce of fluid was discharged.

5th.—Vomited frequently: the swelling was again opened.

6th.—The fluid was discharged: lint and adhesive plaster were afterwards applied, and this plan was repeated on the 8th and 9th.

10th.—The tumour was not opened, because it felt so hard as to induce me to believe it had adhered.

11th.—Stools green; vomited frequently; bandage still applied, but not the adhesive plaster.

13th.—Child sick ; stools green.

14th.—Two ounces of fluid discharged ; plaster and roller applied.

17th.—Plaster of Paris applied wrapped in lint, and bound very tight.

19th.—Comatose, and convulsed, as it was thought, from the pressure of the bandage, and plaster of Paris, these were removed, and a lighter bandage applied.

22d.—The child, which on the 19th appeared to be dying, is better to-day.

24th.—Is more lively ; it sucks but little ; the tumour being very large and full, a truss was applied.

27th.—The truss is to be continued, as the tumour is smaller.

30th.—Tumour reduced ; the child has cut a tooth ; the truss continued.

April 4th.—Appeared to be suffering pain and sickness from the truss, and it was removed.

9th.—Tumour pricked, and the truss re-applied.

14th.—The tumour again pricked.

18th.—Continues to wear the truss ; the tumour was opened to-day ; a handkerchief was doubled under the truss ; the child vomited after its application.

22d.—Appeared in good health ; the tumour was pricked, and again on the 26th, when there was some coagulable lymph in the fluid.

May 2d.—The swelling was pricked, also again on the 6th, and the quantity of fluid which was discharged was not diminished, continuing to amount to from two to three ounces.

The child was now sent to Messrs. Sharpe and Arnauld, surgeons at Peckham, who attended the family, and who pricked the swelling at different times, and discharged the same fluid, both in quantity and quality, which I have described.

The adhesive process was, however, unequal to close so large an aperture from the spine as existed in this case, and I therefore abandoned the adhesive plan, and directed that the same mode of treatment should be pursued as in Ap-

plebee's case ; that a truss should be applied, and constantly worn upon the part, and that the palliative rather than the radical cure should be attempted.

The tumour has been gradually diminishing under this mode of treatment ; the child has grown in proportion to other children, and at the age of a year and an half is a very healthy boy.

These, then, are the two modes of treatment which I have pursued for the relief of those who are afflicted with spina bifida ; the one palliative only ; the other radical.

The first consists in treating the case as a hernia, and applying a truss to prevent its descent ; and the second in producing adhesion of the sides of the sac, as to close the opening from the spine, and stop the disease altogether.—The first is attended with no risk. The truss forms an artificial vertebra where the natural is defective, a buttress which supports the part, and prevents the increase of the disease ; but in this mode of treatment the truss is required in future life, for if discontinued the tumour re-appears, and will grow, as hernia does, to great magnitude, but with more fatal consequences.

On the contrary, the adhesive mode of cure exposes the patient to much constitutional irritation, but leaves him without the apprehension of the future return of the disease. And a finer and more healthy child cannot be seen, than that which was cured by this mode of treatment.

It may be also observed, that this mode does not prevent the subsequent attempt at the palliative treatment, if the radical should not be successful.

But as there are many cases of spina bifida, which cannot be cured, it is right that I should state what are those which will not admit of relief.

If the tumour is connected with an unnatural enlargement of the head, hydrocephalus internus is conjoined with spina bifida ; and the water will accumulate in the ventricles, if the tumour in the loins is attempted either to be palliated or radically cured.

If the lower extremities are paralytic, or the feces and

urine are discharged involuntarily, there is no hope of relief.

If the tumour has burst at the time of birth, or bursts soon after, there is little hope of cure ; for although the opening in the skin may be closed by lint and adhesive plaster, and union produced so as to admit of no further discharge of water, yet hydrocephalus internus will still succeed. In a case which I saw with Mr. Young, surgeon at Lambeth, I closed the opening, and applied a truss, but the head enlarged, and the child died after eight months, with hydrocephalus internus.

The deficiency of the spine is sometimes so great as to lead to the production of a most extended tumour at the time of birth, and when this is the case, the nerves are so far protruded from the spinal canal as to injure the structure of the spinal marrow, and render every attempt at cure unavailing.

I should feel myself deficient in that liberality with which our profession ought ever to be marked, and usurping more than my due, if I did not state that the principle of the radical cure as proposed for Spina Bifida, is similar to that recommended by Mr. Abernethy in his work on Psoas Abscess.

The mode, however, which I have employed for the purpose is, I believe, the only safe one, that of puncturing the part with a needle ; for every opening of a large size will be attended with the utmost danger.

I have for many years used this plan in cases of ganglia, when I could not burst them by a blow or excite their removal by pressure or irritation ; and I have never seen it followed by inflammation or any serious consequence ; and it may be used in cases of accumulation in joints and other cavities, where larger openings are dangerous

VII.

Case of Diffused Aneurism from the temporal artery, occurring in the practice of Dr. JOHN ONDERDONK.

Although the following case presents no surgical novelty, it remarkably well illustrates certain doctrines already received, and shews how great are the powers of nature in removing disease.

July 8, 1807, Mrs. R. in Chatham street, being busy in the kitchen, struck her right temple against the corner of a tin oven, as she was rising from a stooping posture. Immediately a small tumour formed under the injured spot, which, when Dr. O. first saw it, (an hour after) was as large as half a hen's egg. In another hour it was more diffused and half as large as the fist, and seemed to increase more rapidly than before; so that by the end of the third hour, when Dr. Post saw the patient in consultation, the integuments were so much raised as to force outwards the upper part of the ear, and to close the eye by drawing outwards the external canthus. Searching for the vessel being deemed inexpedient, a lotion of cold vinegar was ordered, and laudanum was administered to relieve the pain, which had now become very distressing. The feel of the tumour was like that of a bladder filled with water, the skin was not discoloured, and the only mark of violence was a small wound or rather scratch at the upper part of the tumour. In the evening, 6 or 7 hours after the accident, the eye-lids had become livid, as is common after wounds or blows on the integuments of the cranium. The tumour had farther increased; the lobe of the ear (the only part of it which contains loose cellular substance) was considerably distended; articulation was rendered very imperfect by the distension and drawing aside of the lips; the tumour was very tense, and the skin over it of a glossy smoothness. The lotion was changed for one of lead-water and laudanum.—There was no pulsation.

On the day following, the tumour was still larger, but the skin less tense. It continued to increase during the next day, and the head seemed to be half as large again as natural. The swelling extended to the eye-lids, cheeks, lips, upper part of the neck, and lobe of the ear; the whole ear was raised with the skin, the eye was closed, the mouth nearly so, and both, with the nose, dragged aside. The face appeared as if half a head were added to the right side. The tumour was now at its height, and remained stationary for several days. The process of absorption was however soon commenced, the tumour was frequently washed with brandy; bark was occasionally administered; and in about three months the whole of this mass was removed, leaving the patient entirely free from deformity.—No inflammation occurred.

There can be no doubt that this tumour was occasioned by a rupture of the anterior branch of the external temporal artery. Here a question naturally suggests itself,—would not tying the artery have been better practice? The temporal artery, and indeed all the arteries of the scalp, are not so constant in their situation, as to be cut upon with certainty; unless their pulsation be the guide they will not be instantly found; or if they are, it will be more from good fortune than skill. No one would perform arteriotomy, without either seeing the vessel or feeling its pulsation. In the present case the artery could neither be seen nor felt; and this branch is attached to the skin, and almost imbedded in it, so that every incision made in searching for it, would have increased the size of the scar.

Query. Would it not be correct, in any future case, to make a free incision at the injured spot, and thus divide completely the bleeding artery? This would reduce it to the same condition as after arteriotomy; and retraction and contraction of the ends of the artery, together with pressure, would arrest the bleeding. The artery should be divided immediately, before the integuments become so much distended and removed from the bone, that there is nothing solid to press the artery against.

VIII.

On Laceration of the Large Arteries, by HENRY U. ONDERDONK. M. D.

The laceration of an arterial trunk without bleeding, is the most striking occurrence in surgery. The case published by Mr. Cheselden excited the astonishment of our profession for near a century; and although two others have been made public, they are scarcely regarded as depending on a natural cause. Such cases exemplify very remarkably, that while the animal frame is admirably constructed for the purposes of health, many parts of it appear contrived to prevent the fatality of accidents. They establish also a surgical maxim of the highest importance — that we are on no account to disturb the vessel which is thus naturally closed, except it be to effect the more secure artificial closure by means of a ligature.

The chief object of this paper, is to lay before the readers of the Magazine, the three cases of laceration of large arteries which have been published abroad, and several others which have never been recorded.

1. Cheselden's well-known case of the miller, whose arm and scapula were torn off, leaving the clavicle remaining; the axillary artery was of course lacerated. It did not bleed, and the wound healed.

2. Mr. Carmichael's case, in the Medical Commentaries, of a little girl whose arm was caught in a barley-mill, and torn off, an inch and a half above the elbow. The brachial artery was lacerated, but did not bleed, although she had no surgical attendance till an hour after the accident. The arm was amputated at the shoulder, and the girl recovered.

3. The case of a boy, twelve years old, published by Mr. Carter in the Medical Facts and Observations. His left toe

was caught in a slitting mill, and the whole limb gradually drawn in, till it reached the point where the sartorius crosses the triceps. A man coming to his relief, " forcibly tore him from the machine, by which means the muscular integuments were separated from his body, together with the whole of the left side of the scrotum. The other side also of the scrotum was lacerated. and part of the pyramidalis muscle." The laceration was continued along Poupart's ligament of that side, and then (according to the plate) passed transversely ; so that the thigh was severed almost accurately from the trunk. The femoral, or rather inguinal artery, must have been divided before the profunda was given off ; no hæmorrhage occurred, although the vessel was left without ligature. The boy died on the sixth day after the accident.

4. The following case the author witnessed while attending at the London Hospital.

January 12, 1810, A man was brought to the London Hospital, with his thigh torn almost off by the machinery in a brew-house. The point of laceration was about one third down from the spinous process. All the anterior and lateral muscles were torn through, the femoral artery completely divided, and the bone snapped off as even as if it had been sawed. A small portion of the integuments, and one or two of the loose muscles remained posteriorly. The femoral artery had not bled, although the accident happened more than an hour previous to his being brought to the hospital.

The patient was a very large, fat man, such as are often seen among those who work in breweries. And as the effects of injury are more severely felt in such habits, his chance of recovery was very small. His pulse indeed was already extremely weak, and the powers of his system nearly exhausted. Mr. Thomas Blizard drew out the femoral artery and tied it ; no other vessel was found. He then removed the limb by cutting through the remaining muscles and integuments, and dressed the wounded surface. The patient was put in bed, and a hundred drops of laudanum administered. He died in about an hour.

The only point of surgical interest in this case is, that the femoral artery did not bleed. And this instance is perhaps more surprising than any upon record. The femoral artery of a *large* man is the vessel of greatest magnitude which has suffered laceration without hæmorrhage.

5. Dr. Vanbeuren of Tortola, in a letter to the author, gives the case of a sailor, who, while ramming a cannon, by its accidental discharge, had both his arms torn off; the left a little above the wrist, and the right very near the elbow. When an artery is lacerated, it is somewhat stretched, and the point of laceration is a little above the wound; so that in the right arm of this sailor, the lower end of the brachial artery must have been torn off. There was no hæmorrhage from either arm, although he remained a good part of the night without surgical aid. Both arms were amputated, and the patient was nearly recovered when he left the island.

6. Mr. J. Bell, in 1809, attended a miller, whose arm was torn off in the same manner as in case 1. The following account, from the notes of Dr. Mott (who was in Edinburgh at the time), may not be unacceptable. "In endeavouring to adjust a rope to some part of the machinery of the mill, he inadvertently put his hand upon a windlass in rapid motion, and was thrown with great violence among some of the larger wheels; the mill stopping with his arm fixed in the wheels. When he was taken out there was only the faintest appearance of life; and when Mr. Bell reached the place (a short distance from town), he had revived but little. The os brachii was torn from the scapula and fractured in two places; the scapula was detached from the clavicle; the axillary artery, vein, and nerves were completely torn through; the muscles shockingly lacerated, and the whole arm hanging by a small portion of the serratus magnus anticus. Not more than 20oz. of blood were lost by both accident and operation, not a drop of which was from the axillary artery or vein; it oozed from the minute vessels only. The artery was retracted within its sheath, and surrounded by a coagulum; and as there was no apprehension of hæmorrhage, it was not tied. The

wound was brought together as well as possible. The next day he was much revived; but a considerable emphysematous tumour appeared on his side. He was bled and took a cathartic, also some light nourishment. On the third day, he complained of more pain, and had a very harrassing cough; but the emphysematous tumour was lessened. He was bled again, largely. On the fourth day, the wound had begun to suppurate; but his pulse had become low, and his face purple; and as he was raised up to remove the dressings, he expired.

Examination; five ribs on the left side were fractured, the lung wounded, and a serous effusion in the chest. The subclavian artery, torn near the arch of the aorta, was plugged with a conical coagulum, which adhered firmly to its inner coat; the coats were inflamed, particularly the inner; and the whole arterial tube contracted at its extremity. The extremity of the vein nearly similar, but not so much contracted. There was nothing peculiar in the extremities of the lacerated nerves, they were slightly inflamed."

7. A sailor was brought into Guy's hospital, who, some hours before, had his thigh caught in the coil of a cable, which took it nearly off, so that it hung only by a small portion of skin. The artery did not bleed. The thigh was amputated, and the man recovered.

8. Another case occurred to Mr. A. Cooper, in which the femoral artery was torn completely through, and but little hæmorrhage followed. (The 7th and 8th cases are also from the notes of Dr. Mott.)

9. Mr. Abernethy's case of laceration of the carotid artery by the horn of a cow, (in which he tied that trunk for the first time in England), may perhaps be included. There were indeed several repetitions of hæmorrhage, but if the force of the blood had not been somewhat controuled, by the process usually occurring in lacerated arteries, a profuse and fatal loss of blood must have immediately occurred.

Surgeons have attributed this security from hæmorrhage, to a contraction in the end of the lacerated vessel. If by

this is meant a muscular contraction, an incorrect idea of the appearances is conveyed. It is indeed scarcely probable that the contraction of so few fibres can resist the impetus of the heart and larger arteries. In the fourth case, the end of the artery below the ligature was cut off. It was evident that the brittle internal coat had given way instantly ; and that the elastic cellular coat was drawn over it, the sides of the latter being matted together, and tapering to a point, so as to close the arterial tube completely. This state of the cellular coat was seen at the torn extremity of the piece of artery, while the cut extremity was patulous, as is always the case where an artery has been divided with a sharp instrument.

In the 6th case, the end of the lacerated artery was contracted, and filled with a conical coagulum ; but this condition could not have taken place so instantly as to stop the first impetus of the blood. The matting together of the coats of the vessel, must probably have effected its instantaneous closure, and the clot, when formed, rendered it more secure, until the final process was instituted.

The effusion of lymph upon the lacerated surfaces of the cellular coat, and the consequent union by adhesion, soon secures the vessel from hæmorrhage. No prudent surgeon, however, should trust to mere matting together of the coats ; whenever the end of the vessel can be drawn out and tied, this should be considered as indispensible. And even where the laceration has so confused the parts, that the artery cannot be found, or where it is too much bruised to bear a ligature, it should be tied (if possible) at some higher point.

When an artery is lacerated, but the limb not torn off, this practice will not only secure the patient from hæmorrhage, but will probably induce a more favourable condition of the wound, by lessening the inflammation which is to follow. The author of this memoir lately pursued this practice with the happiest effect in a case of wounded knee-joint, attended with troublesome hæmorrhage from small arteries The femoral artery was secured, at the point where it is passing under the sartorius, by which

high inflammation was entirely prevented. (See No. 2. Vol. 4. of the Amer. Med. and Philos. Register.)

This practice is indicated in all severe injuries in which the prevention of inflammation is a primary object. Compound fractures of the worst class, in which amputation generally becomes sooner or later necessary, are very proper cases for testing its efficacy. An immediate reduction of inflammatory action to the low degree necessary for producing union by adhesion, is the principal indication in these and several other cases; and there can be no means of effecting it, more certain than tying the main artery of the limb.

IX.

Singular case of softening of the thigh bone, communicated in a letter to Henry U. Onderdonk, M. D. by Wright Post, *Esq. Professor of Anatomy, &c.*

Dear Sir,

The case of rapid absorption of bone which you have heard me relate, and of which you have requested the particulars, occurred in this city about six years ago.—Of the situation of the patient previous to the manifestation of this event, I have not now any distinct recollection. All I know is, that he had been for a considerable time in an impaired state of health; for the particulars of which I must refer you to Dr. Berger, who had been in attendance upon him.*

In the month of May 1807, I was requested to visit him

* Dr. Berger has obligingly informed Dr. O. that this patient was of a gouty habit, but had not had a fit of that disease for a twelve-month. That he had occasionally, pains apparently rheumatic in different parts of the body, for which he used guaiacum and sarsaparilla in decoction; but that he had not taken any mercury. That three weeks before the softening of the bone, the thigh became the chief seat of pain, but he still walked about, and called at the house of Dr. B. half a mile from his own. The patient appeared to be between 45 and 50 years old.

in consultation. The evening before I saw him, after walking about in his room, he was suddenly seized with a very excruciating pain in the right thigh, and went to bed. In the course of the night, it was discovered that the thigh was considerably bent, and in the morning I found it bent almost to a right angle. The patient still complained of very great pain, particularly when any attempt was made to straighten the limb; but its flexibility was so complete, that, after the pain became less severe, a very moderate extending force reduced it to a straight position. It soon however became crooked again by the contraction of the muscles. Indeed, so powerful was this contraction, and so considerable the loss of bone, that notwithstanding the most attentive application of splints and bandages, the thigh could not be kept in a straight position. In addition to this loss of stability in the thigh, the whole limb soon became œdematous, and increased in size from this cause, to a great degree.—It would be needless to enter into any detail of the occurrences which took place after this. It is sufficient to observe that the remedies employed, which were tonics, had no effect in arresting the progress of the complaint. He had constantly more or less pain, for the relief of which opiates were constantly necessary, and sometimes he had considerable fever. Under these circumstances, his health daily diminished, until the ensuing January, when he expired. None of the other bones had participated in this affection.

On cutting into the thigh after death, it appeared little more than a dense, gelatinous mass; and there was scarcely a vestige of the thigh-bone to be found. In different places, small spiculæ of bony matter were to be felt, indicating some disposition to the reproduction of bone. But the ossific powers were too weak, for the restoration of what had been in the first instance so rapidly removed by absorption.

I am very respectfully,

Your obedient servant.

W. POST.

X.

Case of Carotid Aneurism successfully operated upon by **Wright Post**, *Esq. Professor of Anatomy, &c.— Drawn up by Valentine Mott, M. D. Professor of Surgery, &c. and communicated in a letter to Benjamin Travers, Esq. Demonstrator of Anatomy at St. Thomas's Hospital, Surgeon to the London Infirmary for curing Diseases of the Eye, &c. &c.*

November 26th. 1813.

Dear Friend.

As I know thou wilt take an interest in learning that the great modern operation has been performed in this country, I take the liberty of enclosing thee the case.

Tying the carotid artery had more arguments to support it, than tying any other artery in the body. The free communication of the arteries of the brain, and the large supply which is insured that organ, even if one of these be tied, added to the analogies furnished by obliterating the other great arteries, had convinced surgeons of the theoretical safety of the practice. Still the minute structure of the brain, and its functions were involved in so much obscurity, that it was accounted a hardy experiment. The confirmation which it accidentally received*, was necessary in order

* The first case of tying the carotid artery was by Hebenstreit, who wounded it accidentally in extirpating a schirrous tumour from the neck, and immediately tied it. His patient recovered, and lived many years. (see Dr. Vose's dissertation p. 12.)

The next case within my knowledge, was that under Abernethy's care. A man was gored in the neck by a cow. The horn of the animal tore the internal carotid artery, and all the primary branches in front of the external carotid. The vessels did not immediately bleed freely, but blood gushed occasionally from them. He tied the common carotid, and instead of any bad consequences ensuing, the man recovered immediately from the faintness occasioned by the accident and loss of blood. This was the main point necessary to be established; if a fatal event did not immediately ensue, the after-success of the operation might be calculated on nearly the same principles as that of any other case of tying an arterial trunk. Abernethy's case (that of Hebenstreit's being little known) may be regarded as the first authority for the new operation, although his patient did not survive.

to remove the apprehension, lest the coldness and numbness consequent to the operation in the extremities, might in the brain be a fatal deliquium.

As Abernethy's patient, (although the taking up of the artery was proved to be safe,) did not eventually recover, Astley Cooper deserves little less than the merit of being the inventor of the operation ; his case established that it could be successfully performed. From his success, has tying the carotid artery been ranked as one of the *regular* operations in modern surgery.

Of the five operations performed in Europe*, one of Astley Cooper's only (which I had the satisfaction of seeing), and thy own, have been successful. As long as the unfavourable events overbalance the favourable, every fortunate operator has a claim to that reputation which has always been awarded to the successful. The case I send thee, by adding one to the list of favourable results, restores the balance, and must increase the confidence of the public in this operation.

Peter Thomas, a negro, born in the West Indies, aged 35 years, was admitted into the New-York hospital, January 5th, 1813, with an aneurism of the carotid artery situated immediately below the angle of the jaw on the right side. He first experienced a pulsatory sensation in March 1812, but no swelling was at that time visible. Soon after, a very small tumour was perceptible, which slowly increased in size until about two months ago, when it began rapidly to enlarge ; until this period, the tumour was unattended with pain. He now, however, complained of a thrilling sensation in the head, and lately he has been subject to occasional attacks of vertigo.

Previous to his admission, he had been bled from the arm once, and blisters ! had been applied to the part by some practitioner who appears to have been unacquainted with the nature of the complaint. He is of a plethoric and robust habit, and has never laboured under any severe illness.

* These cases were, two by Astley Cooper, of which one was successful ; one by B. Travers, also successful ; one by Henry Cline, sen., and one by M. Bierkin, a celebrated surgeon of Stockholm, in Sweden,—both unsuccessful.

His occupation for a considerable period before the discovery of his complaint, was that of a labourer attending upon masons ; and in this capacity, he was frequently obliged to carry heavy loads upon his shoulders, and often worked with his head in a depending position. The dimensions of the tumour at the time of his admission were as follow :

Length,	6 1-8 inches
Breadth,	4 do.
Height, or projection of the tumour from the neck, more than	2 do.
Half circumference of the tumour, measured externally,	8 1-4 do.

His pulse being strong and full, xvi ounces of blood were taken from the arm ; and on the day following, a purgative of sulph : sod : was administered, and he was put upon low diet. These means had the effect of diminishing arterial action in a considerable degree.

On the 7th January, it was agreed in consultation, that tying the carotid artery afforded the only hope of safety. The patient acquiescing in this decision, it was perfomed on the 9th, at 12 o'clock, by Dr. Post.

An external incision was made, about three inches in length, from the lower part of the tumour to within a small distance of the clavicle, which exposed the inner margin of the sterno-mastoid muscle. The dissection was cautiously pursued through the cellular texture between that muscle and the sterno-hyoideus until the sheath containing the vessels became apparent. The artery being then separated from the vein and par vagum, a double ligature armed with needles was passed under it, by means of an eye-probe bent to a suitable curvature for that purpose.

The ligatures were then separated, and the lower one firmly tied ; the artery was next separated from the surrounding parts and secured with the other ligature, about 3-4 of an inch above the lower. The needle with which the lower ligature was armed, was then passed through the coats of the artery, and secured with another knot, in the

manner recommended about a century ago by the celebrated Dionis, in France, and lately revived by Henry Cline, Junr. of London. Afterwards, the intervening portion of the vessel was divided with the bistoury.

It may be of importance to observe that the artery was 1-3 larger than its usual size, and its coats uncommonly thickened. The lips of the wound were retained in exact apposition by strips of adhesive plaster, and lightly covered with lint. No bandage was employed.

Immediately after the first ligature was applied, the action in the aneurism entirely ceased; but in a short time, when attentively examined, a pulsatory motion was obscurely perceptible. It was remarked by Dr. Mott, who had his fingers upon the artery at the wrist, that about 30 seconds after the ligature was applied, the pulse evinced a sudden diminution both of frequency and force; in about a minute and a half however, it regained its usual standard. At this time too, he complained of a pressing or sense of weight on his right inferior extremity,—his right arm and leg seemed relaxed, and the former dropped involuntarily by his side, and seemed deprived of the power of motion. The return of the energy of the circulation, however, was simultaneous with the disappearance of these symptoms.—Three o'clock P. M. the patient complains of oppression about the upper part of the chest; and of pain in the right side of the head, although not as before of the throbbing kind. He feels chilly, and complains of cold in his feet. Skin of natural temperature. Pulse 72, small and feeble.

Let him have an anodyne-sudorific draught, and warm applications to his feet, and drink freely of tepid barley-water.

Six o'clock P. M. Oppression at the chest relieved; complains still of a pain in the right side of his head, and of soreness in the wound. Skin natural. Pulse full and distinct. Ten o'clock P. M. The pain in the right side of the head continues Feels otherwise very comfortable.—Temperature of the skin rather increased. Pulse 70, full and soft.

Jan. 10th.—10 o'clock A. M. Complains of no pain or

uneasiness except in the head. Has slept very well during the latter part of the night. Skin natural. Pulse 76 and regular. Let him be bled to xii ounces.

4 o'clock P. M. Pulse 80 and full. Other symptoms much the same. 10 o'clock P. M.—Pulse 84, strong, full, and somewhat hard. Skin dry, and above the natural temperature. Tongue covered with a white fur. Complains of no pain. Ten ounces of blood were taken from the arm, and he was directed to take copiously of his tepid drinks.

Jan. 11th.—Has no pain, but only a stiffness and uneasiness about the throat. Pulse 86, and of moderate strength. He enjoyed several hours of sleep during the latter part of the night. No alvine evacuation since the operation. Let him take sal rochelle in divided doses. 10 o'clock P. M.—The purgative has operated freely.—Pulse 86, and somewhat excited. Skin heated.

Jan. 12th.—The patient early this morning, after an attack of coughing, was affected with syncope, which continued several minutes; on his revival, he complained of uneasy sensations about the throat, attended with a difficulty in ejecting the excretions of the fauces. Skin cold, and covered with a copious perspiration. Pulse very frequent and feeble, and he appeared much exhausted. He was this day directed to have a more nourishing diet. The tumour does not appear as prominent as before; it has a hardened feel, and the pulsation is very obscure.—10 o'clock P. M. Pulse 94, moderately full and strong. Skin heated, but moist. Feels no pain except at the wound.

Jan. 13th.—Has passed a comfortable night. Pulse 90 and soft. Skin natural. He is troubled occasionally with fits of coughing, which displace the dressings, and arise from a painful sensation about the throat. For this, he was directed to take x gtt. tinct: opii every two hours.—No union by the first intention having taking place in the wound, it begins to suppurate from the whole surface. Pulsation in the tumour almost imperceptible. 10 o'clock P. M. Pulse 90 and rather quick. Skin heated.

Jan. 14th.—Patient quite tranquil. Pulse 84, cough less

troublesome. Bowels costive. Let him have the purgative salt in divided portions, until an evacuation is produced.

Jan. 15th.—Passed a restless night, on account of the cough, and a pain in the right side of the head. He is, however, much better since the complete operation of the purgative. Pulse and skin natural. The wound has a healthy appearance, and suppuration is completely established.

Jan. 16th.—He slept very little last night. Let him have an anodyne of xl gtt. tinct : opii to night.

Jan. 17th.—The patient rested well last night, in consequence of the anodyne. His cough is still troublesome, and attended with pain in the lower part of the throat. The surface of the wound is covered with florid granulations, and the discharge healthy. Let an anodyne of xxx gtt. tinct : opii be administered to night, if necessary.

Jan. 10th.—No material alteration in the state of the patient. He took a saline cathartic in divided portions, with the desired effect. The anodyne was repeated at night.

Jan. 19th.—The discharge from the wound is rather bloody, owing perhaps to the paroxysms of coughing which still harrass him.

Jan. 20th.—Rested unusually well last night. Complains of no pain, and the cough is much better. Wound discharges a bland and healthy pus, the granulations are vigorous.

Jan. 22d.—Cough less troublesome. Lunar caustic was applied to the wound. The dimensions of the tumour as measured to day, were as follow,

Length,	5	3-4	inches
Breadth,	3	1-2	do.
Projection,	2		do.
1 2 Circumference,	7	3-4	do.

Pulsation still perceptible.

Jan. 24th.—The upper ligature came away with the dressings. Lunar caustic was again applied.

Jan. 26th.—The lower ligature came away. The sore has contracted to a small size, and discharges but little.

Jan. 28th.—The patient rested ill last night. He complains of headach, and of a soreness in the tumour, which seems more tense than usual. His cough remains, but is better.

Feb. 2d.—Complains of no pain whatever. General health good. The wound has nearly healed, and pulsation is not perceptible, except at one point where the tumour is softer than at other parts, and it is here very indistinct. The size of the tumour this day was as follows.

Length,	4	3-4	inches
Breadth,	3	1-4	do.
Projection,	1	3-4	do.
1-2 Circumference less than	7	1-2	do.

Feb. 4th.—There is some inflammation and soreness about the wound, and he complains much of headach.—Pulse and skin natural. Bowels regular.—An emollient poultice was directed to be applied to the wound and the parts adjacent.

Feb. 7th.—The pain and soreness have ceased since the use of the poultice. The poultice to be omitted.

Feb. 13th.—Since the last report, he has been occasionally troubled at night with a throbbing pain in the head.—When lying down also, he remarks a singing sensation in the left ear. These symptoms were relieved by the exhibition of a saline purgative, and maintaining his head in an elevated posture while sleeping. He complains of a soreness about the wound, and lower part of the tumour, which has not sensibly decreased in size since the last admeasurement.—Pulse, skin, and bowels in natural condition. He was directed to have the cataplasm again applied.

Feb. 22d.—No soreness at present about the tumour. A small sinus remains, 1 1-2 inches in depth.—He complains yet of occasional throbbing in the head; and there is a point, near the lower part of the tumour, particularly soft and prominent at which an obscure pulsation is still perceptible.

Feb. 26th.—Let the following be used as an injection to the sinus.

R. Sulph : zinc, 16 grains.
Aqua fontan : 8 ounces. M.

March 4th. No material alteration. Let the following be used as an injection instead of the last directed.

R. Sulph : Cupri. 1-2 dram.
Aqua fontan : 4 ounces. M.

March 11th. Two scruples Sulph ; Cupri. to 4 oz. water were ordered as the strength of the injection.

March 23d. The sinus has contracted considerably.—The size of the tumour this day was as follows.

Length,	4 1-4 inches.
Breadth,	2 3-4 do.
Projection,	1 1-3 do.
1-2 Circumference,	6 1-2 do.

On the 17th of May,* the sinus was perfectly closed, and enjoying good health, he requested to be discharged which was accordingly complied with. At this time the tumour was gradually declining.

About two months after, the tumour began to enlarge, and was attended with great pain. At this time from some officious advice, he was induced to try poulticing ; the empl. mercuriale was also applied, but neither were persevered in, being only used a very short time.

On the 3d of September he returned to the hospital, after an absence of three months and a half. The tumour was now double its original size, tense, and painful to the touch, accompanied with a considerable degree of heat, and fluctuating at three or four points, which were considerably the most projecting. The morning previous to his admission, one of the soft projecting points on the anterior part of the tumour gave way, from which he lost about thirty ounces of blood ; it was however easily checked by the application of lint and slight pressure.

September 4th, another small opening appeared, posterior to the former, followed by a discharge of a small quantity of pus mingled with blood.

Sept. 5th. The lint and dressings, which had been applied to the first, or anterior opening, to check the hæmorrhage, were removed, and no flow of blood succeeded.

Sept. 10th, he lost about four ounces of blood to day,

* We find that Dr. Dorsey, in his elements of surgery, has published the former part of this case, which was drawn up at his request by Dr. M.—a favor which he has not been obliging enough to acknowledge. Ed.

which oozed from the ulcerated surface. The size of the tumour not perceptibly diminished. An obscure pulsation discoverable at two distinct points. He complains of some difficulty in deglutition.

Sept. 14th, the tumour appears a little diminished, and not so tense and painful. The ulceration of the integuments gradually increases; the discharge is dark-coloured and fœtid. Pulsation is now perceptible only at one point, and there very obscurely.

Sept. 20th,—No pulsation can now be perceived on the most strict examination. The fœtor of the ulcer is almost intolerable, and the quantity of discharge is increased. From the bottom of the ulcer, large sloughy portions present themselves, which no doubt are coagula of the aneurismal sac, and tend very much to increase the fœtor. Into the posterior opening the probe can be introduced to the bottom of the sac.

Sept. 23d, he complains of throbbing pain in the head and tumour. The tumour is painful upon pressure, and an unusual degree of heat pervades it; pulse full and frequent, though not hard. A saline purgative and low diet were prescribed,—followed by relief.

Sept. 24th, the yeast poultice was applied.

Sept. 27th, A profuse hæmorrhage occurred this afternoon, and before it was checked, he lost upwards of two quarts of blood. Pressure, by means of dry sponge and compresses, restrained it. The dressings were not removed until loosened by a copious purulent discharge. Notwithstanding the loss of this great quantity of blood, no syncope was induced: the pulse however was intermitting for some time.

Oct. 1st.—No material change since the last report. The poultice has been discontinued since the hæmorrhage. The discharge is very abundant.

Oct. 8th.—The tumour is very painful to the touch, and extremely tense. He complains of much difficulty of deglutition and respiration. The size of the tumour has considerably increased by inflammation. He has some fever. The poultice was again directed

Oct. 11th.—He is much better. The tension and tumefaction of the tumour diminished.

Oct. 20th.—The size of the tumour is rapidly diminishing. Let the poultice be omitted.

Oct. 22d.—This morning, 4 o'clock, a hæmorrhage again occurred, and he lost thirty ounces of blood. By this and the preceding hæmorrhage, he was much debilitated. His pulse was scarcely perceptible, fluttering, tremulous, and occasionally intermitting. Rest and a recumbent posture were strictly enjoined.

Oct. 25th.—His pulse continues feeble and frequent, though he is considerably better.

Oct. 29th.—He is rapidly recovering from his debility, and again enabled to take his usual exercise. Portions of coagulated blood are daily discharged, with a great quantity of the dark-coloured matter before mentioned. His pulse still small, though not so frequent.

Nov. 1st.—He complains of much pain in the tumour, particularly upon pressure. Let the yeast poultice be applied.

Nov. 3d.—The size of the tumour very much diminished, and not so painful. The discharge extremely copious.

Nov. 7th.—It continues to decrease very rapidly. It has diminished one third since the application of the poultice on the first day of the month.

Nov. 20th.—Firm and healthy granulations are rising from the bottom of the sac. Let it be filled with dry lint and the poultice omitted.

Nov. 22d.—Complains of some pain in the part, which is more tense. Let a poultice of bread and milk be applied.

Nov. 24th.—Inflammatory symptoms entirely removed. Discontinue the poultice, and dress with lint as before.

Nov. 26th.—The granulations are rather flabby. Let the following be applied.

R. Sulp. Cupri. one scruple.
Aq. Font. two oz. Solve.

Nov. 30th.—The solution has been frequently used, and

the granulations have a firm healthy appearance; the ulcer or sinus has very much contracted.

December 12th.—I examined him particularly to day. The sinus looks very healthy, and is nearly closed, there is but a trifling vestige of tumour, only what seems occasioned by the contracting and shrivelling of the skin. He may now be said to have recovered.

I am indebted for some of the particulars of the first part of this case, to James Inderwick, Surgeon of the U. S. Brig Argus, who was then house-surgeon of the hospital; and for the latter part, to Charles Hasbrouck the present house-surgeon.

In this case, nature appears in the first instance to have set about the removal of the morbid enlargements by absorption, and which was carried on for some time. At length, this being insufficient, another process was instituted, which was suppuration and consequent ulceration; by which the whole of the offending cause appears to have been completely removed, and no doubt with the least expense to the system. There appears to me to be some analogy between this case, and that of Mary Edwards, the woman on whom Astley Cooper first operated. She died on the twentieth day after the operation, and it appeared from the dissection, that inflammation had been induced in the aneurismal sac and adjacent parts, which increased the size of the tumour, and, by its pressure upon the larynx, so impeded respiration as to occasion her death.

It occurred to me that it would be proper when the openings were first formed in this case, to have made a free incision into the tumour, removed the coagula, and secured the vessels upon the surface of the sac. Afterwards, to have filled the sac with lint, and healed it from the bottom. In reading A. Cooper's observations upon Mary Edwards' case, I find he has proposed the same thing.

With sentiments of esteem and regard

I am very respectfully

VALENTINE MOTT.

CONCLAVE CADAVERIS.

I.

Examination of a case of Intus-susceptio, accompanied with an unusual disposition of the abdominal viscera, and some of the organs in the cavity of the thorax ; by WRIGHT POST, *Esq. Professor, &c.*

A child of Mr. S. one year old, was seized with symptoms which were supposed to arise from an ordinary spasmodic affection of the bowels. For the relief of these, all the usual remedies were employed, but without any good effect. The stomach soon became so irritable as to reject whatever was taken into it, and no evacuations could be procured from the bowels. After the complaint had continued three or four days, a tumour was observed projecting from the anus ; which, irritating the rectum, or giving a sense of fullness there, occasioned frequent efforts to force something from the body, and these efforts brought the tumour more and more into view. In this condition of the child I was requested to visit it.—The appearance of this tumour had of course excited a good deal of interest, and my attention, after learning the history of the case, was first directed to it. On passing my finger into the rectum, the sphineter muscle of which was remarkably relaxed, I found that the protruded part was the end of an elongated substance, extending up the rectum, entirely detached from its inner surfaoe, beyond where the finger could reach. Reflecting upon all the circumstances of this case, I did not hesitate to pronounce it an intus-susceptio, and that the tumour protruding from the anus was one end of that portion of the intestine which was included in another. This opinion was verified by an examination of the body the next day,—the child having died the night after I was call-

ed in consultation. Upon fully exposing the cavity of the abdomen, I was immediately struck with the appearances which presented themselves. The liver was found in the *left* hypochondrium, with its two large lobes reversed, the largest being to the left. The spleen was found in the *right* hypochondrium, and divided into several lobes, slightly attached to one another; and in the neighbourhood were several smaller spleens. The stomach was situated principally on the right side of the spine, with its larger curvature above and the smaller one below. The small intestines had no peculiarity in their appearance, except great distension from flatus and other usual contents; but the colon (and six inches of the ileum) had entirely disappeared, except a small portion of it just above the brim of the pelvis on the *right* side. It was this intestine which had passed into the rectum, and had descended so low as to form the tumor protruding at the anus. As there was no appearance of the colon having been dragged from its usual course in the abdomen, it may be reasonably concluded, that its original situation was altogether on the *right* side, and that it had been less confined by attachments than is commonly the case; and that, in consequence, it had fallen down into the rectum.

The liver being on the left, naturally led to the supposition that there was a correspondent change in the relative situation of the aorta and vena cava, and this was found to be actually the case, the aorta was on the *right*, and the cava on the *left*.

The unusual appearances in the cavity of the abdomen, made me suspect that the thorax would exhibit something singular in the disposition of its contents. Accordingly the heart was found with its apex inclining to the right, in a degree equal to its ordinary inclination to the left. The curve of the aorta was made to the right instead of taking the usual direction to the left, and the artery continued down on the right of the spine, as observed in the cavity of the abdomen. Had the dissection been further prosecuted, I should, no doubt, have found the same change in relative situation between the aorta and vena azygos, as was noticed between the aorta and vena cava.

II.

Examination of a case of mesenteric hernia, communicated by MR. JAMES C. BLISS, *student of medicine.*

N. T. a native of Massachusetts, residing in Lansingburgh, aged 57 years, after lifting a barrel of cider from a cart, about 10 A. M. in Oct. 1811, was seized with symptoms resembling those which usually attend a violent attack of ileus,—a complaint to which he had been subject for several years. Dr. Burritt, of Troy, was called, and directed some cathartic medicine. He visited him again at 8 or 9 P. M. when the pain was found to have increased, and his distress had become very great. The pulses were eighty five in the minute, full and strong. He had vomited several times since the administration of the cathartic, and had thrown it off from his stomach. Some cathartic pills were immediately administered, and the warm bath directed; and as his situtation appeared alarming, Dr. B. concluded to remain with him. In the course of the night he was bled, a blister was applied to the abdomen, and injections per anum were had recourse to. In the morning Dr. B. left him apparently somewhat relieved, although his symptoms were still urgent. In the course of the day, his complaints became much more aggravated; and when Dr. B. saw him in the afternoon, it was evident that remedies could be of no avail; he expired about 5 o'clock.

The next morning the body was examined, in the presence of Dr. Burritt and two or three other medical gentlemen. The abdomen was remarkably hard and distended. On laying open this cavity, the first object that attracted attention, was a large portion of the small intestines, in the umbilical and upper part of the hypogastric regions, unusually distended with air; they were of a dark purple colour; and their small bloodvessels very much en-

enlarged and filled with blood. There was also in the right hypochondriac region, a tumour of considerable magnitude, which was occasioned by the above mentioned intestines crowding the remaining portion of small intestines upward, in such a manner that the mesentery was drawn over them with almost the tightness of a drum-head; the whole having the appearance of a lusus naturæ.

On further examination it was found, that sixteen feet (by actual measurement) of the small intestines were protruded through an opening in the *mesentery*, about three inches from the junction of the ileum with the colon. This aperture was about 2 1-2 inches in length, and its margin consisted of a white, shining, hard substance, about six lines in thickness, which very much resembled a ligament. No marks of recent inflammation were discoverable near the opening, nor was there an appearance of effusion of any kind of fluid from the edges of the aperture. No adhesions had been formed between the intestines and the parts which they were in contact. The gut was completely strangulated.

The possibility of both layers of the mesentery being ruptured, together with the subsequent protrusion of the gut through the aperture, might reasonably admit of doubt, did not dissections prove the fact. I do not, however, recollect to have met with a case on record, attended with the laceration of *both layers** of this membrane.

A conclusion may reasonably be drawn, from the appearances on dissection, taken in conjunction with the symptoms which preceded, that the rupture must have been of long standing. The circumstance of the patient's having been frequently attacked with colic, must have arisen from some obstruction in that portion of the gut which was forced through the mesentery. The above opinion receives additional weight from the appearance of the margin of the opening, and the quantity of intestine found strangulated.

* In vol. 2. p. 86. of Mr. A. Cooper's work on Hernia, is a case communicated by Mr. Palmer, in which "an opening was found *through* the mesentery." But as Mr. Cooper had just described (p. 82. 84.) mesenteric and mesocolic hernia as rupturing *one layer* only, we must suppose that Mr. P. has not stated his case with perfect accuracy. Ed.

Perhaps it may not be improper to suggest, that a portion of those cases of ileus which are so suddenly fatal, may be referred to causes similar in their nature to the case above related ; it is evident, that in many instances, the rise, progress, and termination of this disease, cannot be referred to the usual exciting causes.

III.

Examination of a man who died from Pulmonic Disease, by VALENTINE MOTT, M. D. &c.

D. R. has had several attacks of pneumonia, and for 8 or 9 years has been thought consumptive ; has had considerable difficulty of breathing, particularly in going up an ascent ; and was much emaciated : he died with symptoms of peripneumonia.

On examination, the right lung was found degenerated into a solid mass resembling liver, with a general and firm adhesion to the pleura lining the ribs, diaphragm, and mediastinum. The bronchial vessels were filled with a cheesy purulent substance. A portion of the lung cut out, sank in water. The left lung was natural.

The heart presented no unusual appearance, but the great arteries and veins leading from and to the heart, were all highly inflamed on their internal surfaces.

IV.

Examination of an Inguinal Hernia, by VALENTINE MOTT, M. D. &c.

On examining the body of a woman, the following appearances presented themselves. In the right groin was a tumour about the size of a small hen's egg, which was the sac of a reducible, indirect, or common inguinal hernia. When the abdomen was opened, the jejunum and

ileum, and particularly the former were very much distended with flatus, and at least three inches in diameter. The small intestines were settled lower down, and particularly in the right groin; at which place a portion of the ileum was of a dark brown colour for several inches in extent, and in a state of complete mortification. The intestine going into the internal abdominal ring, was so tender as to be torn from its situation, notwithstanding the great care that was used in the examination. On opening the hernial sac, the cavity presented a smooth and uniform appearance, containing a very small quantity of serum. No intestine appearing in the sac, the inguinal canal was next examined, and found to put on the same appearance as the sac, and empty. At the internal ring, the intestine was found confined by a membranous band,—which extended across it from above downwards, and which occasioned the strangulalation. A truss was worn at the time of her death.

The membranous band was very firm, and completely bridled the intestine. The hernial sac was so much thickened, as to put on the appearance of its having been a reducible hernia of some time standing. At some period when the hernia was down, inflammation must have been induced about the internal ring or neck of the sac, by which this band was formed, and the intestine afterwards prevented from returning into the cavity of the abdomen. The mortified portion of intestine which is confined by the band, can be moved freely under it.

V.

Examination of a Schirrous Stomach, by Valentine Mott, M. D. &c.

M. W. a female aged about 50 years, has been affected with pain in the epigastric region for four years, attended with cardialgia, dyspepsia, and frequently vomiting, especially after a meal. At the time I saw her, she complained of great distress, and occasionally a darting pain shooting through the region of the stomach, costiveness, and

vomiting directly after taking food. She had taken tonics, and a variety of other medicines, but without any permanent good effect. After blistering the epigastric region from time to time, and using some of the different preparations of iron quassia, &c. with only temporary benefit, I prescribed the white oxyd of Bismuth, which produced the greatest relief; it lessened the vomiting and pain so much, that it was thought a cure was about to take place. Though it was regularly increased in quantity, after a little time it appeared to lose its effect, and all the symptoms to be renewed and aggravated. The matter vomited at the time I first saw her, was of a blackish mucous appearance, mixed with a great quantity of water. Several pints of this would be discharged from the stomach in the course of twenty four hours; this became of a darker and darker colour towards the close of the complaint, and for some weeks before death, of a very offensive smell.

I discovered several months before her death, that there was a hardened substance in the situation of the stomach, and as I could distinctly feel the shape of this viscus, I did not hesitate to inform her friends, that her whole stomach was in a state of complete schirrus. The emaciation was the most extreme that I ever witnessed in any case, which enabled me to feel more exactly the state of the stomach. She occasionally showed some hectic appearances, but they were trifling and by no means regular.

I examined the body twenty four hours after death. On opening the abdomen, the first thing that presented, was this hardened mass, which was the stomach. It was flattened anteriorly and posteriorly, of the shape and size of the healthy stomach in an empty state. It was of a hardened cartilaginous feel and look. The spleen was firmly attached by the whole of its inner edge, to the great extremity of the stomach, and much diminished in size. To the small curvature of the stomach a considerable portion of the lesser lobe of the liver was firmly united; and at the posterior and lower surface the pancreas was attached. It was laid open along the great curvature, from the cardiac to the pyloric orifice; the thickness varied from half an inch to three quarters, it was very hard and in seve-

ral places, points of calculous or ossific matter were observable, which grated when the knife passed through them. The cavity was small, but filled with the black sooty matter, which when scraped or washed off, left the whole internal surface in an ulcerated state. The black matter had a very offensive smell The œsophagus was a good deal hardened and thickened for an inch or two above the cardia ; the duodenum was perfectly natural at its origin from the pylorus. The other abdominal viscera were natural. A considerable quantity of the black mucous was in the intestines, and particularly in the large ones. The stomach is preserved in my collection.

VI.

Examination of the Brain, after death ; from several cerebral diseases, by HENRY U. ONDERDONK, M. D.

B. V. a black man aged about 25, had been for some years afflicted with epilepsy, and paralysis of the left side. His mind had not appeared to suffer derangement. He died without convulsions.

On examination of the brain, the left lateral ventricle was found to contain an ounce of serum not discoloured ;— this was the only disease on the left side of the brain. The right lateral ventricle contained full two ounces of serum, high coloured but not bloody, and was greatly enlarged, encroaching posteriorly on the left ; so that there could not have been any *natural* foramen Monroianum. In the right hemisphere were found two cells, such as are supposed to follow apoplexy, one larger than a dollar, and the other not quite so large. While supporting the hemisphere in the hand for the purpose of further dissection, it gave way, and discovered a layer or surface of a dissolved (scarcely purulent) appearance, on which was situated a tumour fully as large as a black walnut. This was found to consist of an extravasation of blood in the substance of the brain. Several small apoplectic cells were found under

the tumour. The pineal gland was without gravel. The plexus choroides pale.—There were no other diseased appearances.—The veins of the pia mater not in the least over-distended.—The substance of the cerebrum firm, but not preternaturally so.—The cerebellum natural.

In the chest,—the left lung was degenerated into a tough mass of a cellular texture, and of a chocolate colour.—In the abdomen, there was no visible disease.

VII.

Examination of a man who died from the bursting of an Aneurism of the Aorta, by HENRY U. ONDERDONK.

Arthur Scott, a black man, living in Essex street, first perceived a throbbing sensation in his chest, in the latter part of 1811 ; it was attended with some pain, and could often be felt on the outside. He was bled for its relief, and even blistered, and salivated! In March 1813, a tumour "came through," and formed upon his back, between the scapula and spinous processes of the vertebræ, slightly elevating the former. When first noticed, it was as large as a tea-cup, but it continued to grow larger and more painful ; feeling "as if thorns were pricking him ;" and affecting his breathing.

July 6th, 1813, I first saw him, by request of Dr. Rockwell. The tumour is as large as a pint bowl, and may be compressed to two-thirds its size, but instantly returns when the fingers are removed ; it appears to have little but the skin for its covering ; and the pulsation is very strong. There is a beating anteriorly on both sides of his breast. Along the course of the arteries there is a peculiar *shew* of pulsation, which is not confirmed by *feeling* the pulse.

No prescription was made, except low diet and occasional bloodletting ; the latter seldom failed to afford temporary relief. The pain became excruciating, the tumour continued to increase ; the skin over it became smooth and

glossy, but did not either crack open or mortify; and on the 10th of August, he died suddenly in the afternoon.

August 11th, This day, fourteen hours after death, I opened the thorax, in presence of Drs. Rockwell and Stillwell, and my pupils. More than two quarts of discoloured serum were taken from the cavities of the pleura, chiefly from the left; from the latter cavity was also taken, a firm coagulum, estimated at three pounds. The left lung was sound, except at the posterior, superior, inner part, where it adhered to the pleura costalis for a considerable space; within this space, the lung was destroyed, and formed part of the aneurismal sac. The right lung was also sound, and free from adhesion. The aorta, to its arch, was enlarged to full two inches in diameter; and on its anterior part was a spot of squamous, callous, aneurismal structure, as large as a quarter-dollar. The mouth of the sac of the aneurism was at the curvature of the aorta, and was large enough to admit three fingers. It appeared to have first adhered to the upper part of the left lung in contact with it, and then to the pleura costalis at the angles of the 3rd, 4th, and 5th ribs. The third rib was absorbed through half its width, for the space of an inch or more, the fourth was entirely absorbed for the same space,—also the fifth. The edges of these ribs were in part spiculated, and partly as smooth as if sawed. The exact place of rupture could not be ascertained, on account of my not being allowed to dissect with sufficient freedom. But from the situation and course of the coagulum, I believed it to be at the lower posterior edge of the junction of the sac with the artery. The sac was very thickly lined with lymph and coagula.

The pericardium contained two ounces of serum. The heart was externally of a natural appearance, and without fat. The sides of the left ventricle were twice as thick as they usually are. The right ventricle, and all the valves, &c. were natural.

Had the tumour been measured before death, it would probably have made a tolerably regular oval, 8 inches long, 6 broad, and 4 or 5 high.

INTELLIGENCE.

FOREIGN.

Outline of Dr. Young's system of practical nosology, from the Quarterly Review.

CLASS I. Paraneurismi, nervous diseases. (Consisting chiefly of the Neuroses of Cullen.)

CLASS II. Parhæmasiæ. Sanguine diseases.

ORDER 1. Phlogismi, Flushes, (chifly simple inflammations.)

ORDER 2. Pyrexiæ. Fevers.

CLASS III. Pareccrises. Secretory diseases.

ORDER 1. Epischeses. Retensions of various kinds.

ORDER 2. Apocenoses. Effusions of various kinds.

ORDER 3. Cacochymiæ. Cachexies, or vitiated secretions, (as dyspepsia, podagra, diabetes.)

CLASS IV. Paramorphiæ. Structural diseases.

ORDER 1. Paraphymata. Local changes, (for instance, tumours.)

ORDER 2. Epiphymata. Eruptions, (chiefly cutaneous.)

CLASS V. Ectopiæ. Displacements, (including surgical and obstetrical cases.)

From the (London) Monthly Magazine.

In the Croonian Lecture on some physiological researches, respecting the influence of the brain on the action of the heart, and on the generation of animal heat, Mr. Brodie has shown, by a number of well-conducted experiments ;

1. That the influence of the brain is not directly necessary to the action of the heart, for by means of artificial respiration the action of the heart was continued for a considerable length of time after the head was cut off. Indeed, many phenomena previously known, such as the length of time that the hearts of some animals continue to beat after they are taken out of the body, rendered this conclusion unavoidable.

2. That, when the brain is injured or removed, the action of the heart ceases only because respiration is under its influence; and if, under these circumstances, respiration is artificially produced, the circulation will still continue.

3. That when the influence of the brain is cut off, the secretion of urine appears to cease, and no heat is generated; notwithstanding the functions of respiration, and the circulation of the blood continue to be performed; and the usual changes in the appearance of the blood are produced in the lungs.

4. That, when the air respired is colder than the natural temperature of the animal, the effect of respiration is not to generate but to diminish animal heat.

In the account of some further experiments, lately read to the Royal Society, he concludes as follows:—" These experiments appear to warrant the conclusion, that, in an animal in which the brain has ceased to exercise its functions, although respiration continues to be performed, and the circulation of the blood is kept up to the natural standard; although the usual changes in the sensible qualities of the blood take place in the two capillary systems, and the same quantity of carbonic acid is formed as under ordinary circumstances; no heat is generated, and (in consequence of the cold air thrown into the lungs) the animal cools more rapidly than one that is actually dead. The facts now, as well as those formerly adduced, go far towards proving, *that the temperature of warm-blooded animals is considerably under the influence of the nervous system.*"

From the same.

Since the departure of professor Berzelius from England, he has written to a chemical friend in London, announcing that he has succeeded in decomposing nitrogen, which he has reason to believe, from his analysis, to be a compound of about 45 parts of a new species of inflammable gas, and about 55 of oxygen.

From the same.

A report was lately made to the imperial institute, in which it is stated, that out of 2,671,662 subjects vacinated

in France, only seven authenticated cases appear, of patients having afterwards taken the small-pox.

We are indebted to Dr. A. H. Stevens, for the following notice of an amputation at the hip-joint, by M. Larrey.

" The operation was performed on a patient aged 12 years. The cause which rendered the operation necessary, was a disease of the femur, with irreparable disorganisation of the soft parts high up the thigh.—The patient's buttocks were brought to the edge of the table, while the body was supported in a half-recumbent position.*—The thigh was extended, and the femoral artery tied by a single ligature, near its exit from under Poupart's ligament. The thigh was now inclined toward the abdomen, and supported by an assistant with one hand at the outer part of the buttock, and the other above the internal condyle. Just within the incision made for securing the artery, M. Larrey entered the point of a long, narrow, and straight knife, which he pushed forward, grazing the trochanter minor with the back of the blade, (its edge being directed inward and downward,) until the instrument came out at the inner part of the buttock. The knife was then made to cut itself out, at a place one third of the distance from the pubis and inner condyle. The assistant turned the limb outward,—the capsular and round ligaments were divided,—the knife was passed a little way along the outer part of the femur, and its edge was then gradually inclined outward, and the incision continued outward and downward, in such a manner as to make the outer flap correspond with the former. Four or five bleeding vessels were taken up, and the lips of the wound brought together in the usual manner. The patient recovered, and enjoyed good health many months after."

A letter from Mr. Edward Post to his father, has afforded us the following intelligence.

" The actual cautery *(ferrum incandescens)* is at pre-

* " The French surgeons commonly place their patients in a half-reclining posture, and their tables are very conveniently adapted to this purpose, by having a hinge in the center."

sent a favorite remedy in France.—M. Dupuytren has used it with success in ulcers of the extremities affected with hospital *pourriture* (gangrene.)—M. Maunoir of Geneva, has been successful with it in cancerous ulcers on the face, where the disease appeared to be purely topical. The part affected was first removed with a knife, and the iron then applied.—He has even cured bad scrofulous ulcers on the throat in the same manner, however omitting the first part of the operation."

DOMESTIC.

A case of femoral aneurism (just below the groin) was received into the New-York hospital in October last. At that period, it was of the size of half a goose-egg ; it could be nearly emptied, and it filled again very quickly, but not instantly. When felt, it occasioned a thrilling sensation as in varicose aneurism. Compression was applied as a means of cure ; since which, the tumour has become more diffused, and is harder. The pulsation has subsided but little, and the thrilling is still very perceptible. It seems to be extending under Poupart's ligament, which is stretched upwards very tightly.—This plan was given up a short time since, and the operation proposed, to which the patient has not yet consented.

An incisor tooth which has been broken and re-united, is in possession of Dr. H. U Onderdonk. It was extracted from the upper jaw of a child about 7 years old, some months after she had broken it by running against a log of wood in the cellar. It appears to be of the second set, as the edge is not the least worn, and has the triple division. The fang and body are at a right angle, and the union appears to be by callus. It has been shewn to the surgical professors of the College of Physicians and Surgeons; two of whom agree with Dr. O. in regarding it as proving the vascularity of the tooth ; but the other considers the callus as afforded by the pulp not yet obliterated.

Dr. Dorsey's "*Elements of Surgery,*" in 2 vols. have

been just received by Collins and Co. From a cursory survey and particularly from the plates, we judge that it contains the different American improvements in surgery, for many of which we are indebted to his kinsman Dr. Physick.

The two American editions of *Henry's Chemistry*, with notes and additions by Professor SILLIMAN, of Yale College, being nearly all sold, Thomas & Andrews of Boston, intend re-publishing the late London edition, in 2 vols. 8vo. in which the author has introduced numerous and important improvements. This third American edition will also be revised and enlarged by Professor Silliman.

The "*Medical Writings*" of the late Dr. EDWARD MILLER, have been delayed in their publication on account of the indisposition of the Reverend Editor. We are, however, requested to state, that they will probably appear in the course of a month or two.

Dr. TASSO of this city, has issued proposals for publishing a work on bandages, and other surgical subjects, with plates, calculated particularly for surgeons in the army and navy.

We are requested to state that PROPOSALS for an *Encyclopedical Dictionary*, to be translated from the French, and comprised in 2 vols quarto. with a volume of plates, are now circulating for public patronage.

OBITUARY.

Died, on the 21st Dec. 1813, in the 58th year of his age, Dr. JOHN WILSON, for many years a respectable practitioner in this city.

Communications for the NEW-YORK MEDICAL MAGAZINE, *are respectfully solicited.*